Call to Order

NERC Antitrust Compliance Guidelines—Public Announcement

Consent Agenda - Approve

1. Minutes*
   a. January 20, 2016 Conference Call
   b. December 7, 2015 Conference Call
   c. November 5, 2015 Meeting

2. Committee Membership and Charter Changes*
   a. Compliance and Certification Committee Membership
   b. Planning Committee Membership
   c. Critical Infrastructure Protection Committee Membership
   d. Election and Appointment of NERC Officers

Regular Agenda

3. Remarks and Reports
   a. Opening Remarks by Board Chair
   b. Remarks by David Ortiz, U.S. Department of Energy
   c. Remarks by Murray Doehler, CAMPUT
   d. Report on Mexico’s Electricity Reforms, Commissioner Marcelino Madrigal, CRE
   e. President’s Report
   f. Board of Trustees Self-Assessment Results

4. Standards*
   a. Project 2014.2.1 Phase 2 of Balancing Authority Reliability-based Controls (BAL-005, BAL-006, FAC-001) — Adopt
   b. Project 2010-07.1 Vegetation Management (FAC-003) — Adopt

d. TOP-007-WECC-1a – System Operating Limits – Retire

5. Other Matters and Reports
   b. Outreach and Follow-up of Reliability Assessment Reports – Update
      i. Essential Reliability Services Task Force Report and Abstract
      ii. Clean Power Plan Report
   c. E-ISAC Quarterly Update – Information
      i. CRISP Update
   d. Report on GridExIII – Information

6. Committee Reports*
   a. Operating Committee
   b. Planning Committee
   c. Critical Infrastructure Protection Committee
   d. Member Representatives Committee
   e. Personnel Certification Governance Committee
   f. Standards Committee
   g. Reliability Issues Steering Committee
   h. Compliance and Certification Committee
   i. Electricity Sub-Sector Coordinating Council

7. Forum and Group Reports*
   b. Regional Entity Management Group
   c. North American Transmission Forum
   d. North American Generator Forum

8. Board Committee Reports
   a. Corporate Governance and Human Resources
      i. 2016 Board Committee Assignments – Approve
      ii. 2015 Contribution to Savings and Investment Plan – Approve
      iii. Mandates: Standards Oversight and Technology, Finance and Audit, and Enterprise-wide Risk Committees – Approve
b. Compliance

c. Finance and Audit
   i. Fourth Quarter 2015 Unaudited Statement of Activities – **Accept**

d. Enterprise-wide Risk

e. Standards Oversight and Technology

9. **Adjournment**

*Background materials included.*
Antitrust Compliance Guidelines

I. General
It is NERC’s policy and practice to obey the antitrust laws and to avoid all conduct that unreasonably restrains competition. This policy requires the avoidance of any conduct that violates, or that might appear to violate, the antitrust laws. Among other things, the antitrust laws forbid any agreement between or among competitors regarding prices, availability of service, product design, terms of sale, division of markets, allocation of customers or any other activity that unreasonably restrains competition.

It is the responsibility of every NERC participant and employee who may in any way affect NERC’s compliance with the antitrust laws to carry out this commitment.

Antitrust laws are complex and subject to court interpretation that can vary over time and from one court to another. The purpose of these guidelines is to alert NERC participants and employees to potential antitrust problems and to set forth policies to be followed with respect to activities that may involve antitrust considerations. In some instances, the NERC policy contained in these guidelines is stricter than the applicable antitrust laws. Any NERC participant or employee who is uncertain about the legal ramifications of a particular course of conduct or who has doubts or concerns about whether NERC’s antitrust compliance policy is implicated in any situation should consult NERC’s General Counsel immediately.

II. Prohibited Activities
Participants in NERC activities (including those of its committees and subgroups) should refrain from the following when acting in their capacity as participants in NERC activities (e.g., at NERC meetings, conference calls and in informal discussions):

- Discussions involving pricing information, especially margin (profit) and internal cost information and participants’ expectations as to their future prices or internal costs.
- Discussions of a participant’s marketing strategies.
- Discussions regarding how customers and geographical areas are to be divided among competitors.
- Discussions concerning the exclusion of competitors from markets.
- Discussions concerning boycotting or group refusals to deal with competitors, vendors or suppliers.
• Any other matters that do not clearly fall within these guidelines should be reviewed with NERC’s General Counsel before being discussed.

III. Activities That Are Permitted
From time to time decisions or actions of NERC (including those of its committees and subgroups) may have a negative impact on particular entities and thus in that sense adversely impact competition. Decisions and actions by NERC (including its committees and subgroups) should only be undertaken for the purpose of promoting and maintaining the reliability and adequacy of the bulk power system. If you do not have a legitimate purpose consistent with this objective for discussing a matter, please refrain from discussing the matter during NERC meetings and in other NERC-related communications.

You should also ensure that NERC procedures, including those set forth in NERC’s Certificate of Incorporation, Bylaws, and Rules of Procedure are followed in conducting NERC business.

In addition, all discussions in NERC meetings and other NERC-related communications should be within the scope of the mandate for or assignment to the particular NERC committee or subgroup, as well as within the scope of the published agenda for the meeting.

No decisions should be made nor any actions taken in NERC activities for the purpose of giving an industry participant or group of participants a competitive advantage over other participants. In particular, decisions with respect to setting, revising, or assessing compliance with NERC reliability standards should not be influenced by anti-competitive motivations.

Subject to the foregoing restrictions, participants in NERC activities may discuss:

• Reliability matters relating to the bulk power system, including operation and planning matters such as establishing or revising reliability standards, special operating procedures, operating transfer capabilities, and plans for new facilities.
• Matters relating to the impact of reliability standards for the bulk power system on electricity markets, and the impact of electricity market operations on the reliability of the bulk power system.
• Proposed filings or other communications with state or federal regulatory authorities or other governmental entities.
• Matters relating to the internal governance, management and operation of NERC, such as nominations for vacant committee positions, budgeting and assessments, and employment matters; and procedural matters such as planning and scheduling meetings.
Call to Order and Chair’s Remarks
Fred Gorbet, Chair, called to order the duly noticed open meeting of the Board of Trustees (“Board”) of the North American Electric Reliability Corporation (“NERC”) on January 20, 2016, at 12:00 p.m. Central Time, and a quorum was declared present. The agenda is attached as Exhibit A.

Present at the meeting were:

**Board Members:**
Fred Gorbet, Chair
Paul F. Barber
Gerald W. Cauley, President and Chief Executive Officer
Janice Case
Robert G. Clarke
David Goulding
George Hawkins
Kenneth G. Peterson
Jan Schori
Roy Thilly

**NERC Staff:**
Tina Buzzard, Administrative Associate Director
Charles A. Berardesco, Senior Vice President, General Counsel, and Corporate Secretary
Thomas Coleman, Director, Reliability Assessments
Mark G. Lauby, Senior Vice President and Chief Reliability Officer
John Moura, Director of Reliability Assessment and System Analysis
Marcus H. Sachs, Senior Vice President and Chief Security Officer
Janet Sena, Senior Vice President and Director of Policy and External Affairs
Michael Walker, Senior Vice President, Chief Financial and Administrative Officer and Treasurer

**NERC Antitrust Compliance Guidelines**
Mr. Gorbet directed the participants’ attention to the NERC Antitrust Compliance Guidelines included with the advance meeting materials.

**Reliability Considerations for Clean Power Plan**
Referencing the advance agenda materials, Mr. Coleman discussed the purposes of the report, including providing reliability specific guidance to states. He thanked the industry volunteers who
worked on the report, and noted the comments from Trustees that will be reflected in the final report. Mr. Coleman also discussed the outreach efforts that will accompany the report. He reviewed the overall structure of the report and key considerations set forth therein.

Upon motion duly made and seconded, the Board accepted the report and endorsed its publication.

Adjournment

There being no further business, and upon motion duly made and seconded, the meeting was adjourned.

Submitted by,

Charles A. Berardesco
Corporate Secretary
DRAFT Minutes
Board of Trustees
December 7, 2015 | 1:00 p.m. – 3:00 p.m. Eastern

Conference Call

Call to Order and Chair’s Remarks
Fred Gorbet, Chair, called to order the duly noticed open meeting of the Board of Trustees (“Board”) of the North American Electric Reliability Corporation (“NERC”) on December 7, 2015, at 1:00 p.m. Eastern, and a quorum was declared present. The agenda is attached as Exhibit A.

Present at the meeting were:

Board Members:
- Fred Gorbet, Chair
- Paul F. Barber
- Gerald W. Cauley, President and Chief Executive Officer
- Janice Case
- Robert G. Clarke
- George Hawkins
- Kenneth G. Peterson
- Jan Schori
- Roy Thilly

NERC Staff:
- Tina Buzzard, Administrative Associate Director
- Charles A. Berardesco, Senior Vice President, General Counsel, and Corporate Secretary
- Thomas Coleman, Director, Reliability Assessments
- Mark G. Lauby, Senior Vice President and Chief Reliability Officer
- John Moura, Director of Reliability Assessment and System Analysis
- Amir Najafzadeh, Engineer
- Pooja Shah, Senior Engineer

NERC Antitrust Compliance Guidelines
Mr. Berardesco directed the participants’ attention to the NERC Antitrust Compliance Guidelines included with the advance meeting materials, and offered to address any questions regarding antitrust compliance or other related matters.

Essential Reliability Services Task Force Framework and Abstract Report
Referencing the advance agenda materials and draft reports, Mr. Moura provided background on the purpose of the reports, particularly emphasizing the ongoing changes to the power industry and its physical aspects. He also noted the purpose of the abstract report is to provide the information to a
broader audience. Ms. Shah summarized the reports. Mr. Gorbet urged continuing monitoring of the issues addressed in the reports and noted the need for a continuing proactive communications approach and for considering who is responsible for addressing the issues raised in the reports and the need for follow up. After discussion, and upon motion duly made and seconded, the Board accepted the reports and endorsed the recommendations contained therein.

2015 Long-Term Reliability Assessment
Mr. Coleman introduced the draft 2015 Long-Term Reliability Assessment (“LTRA”) which had been included in the advance meeting materials, noting that the work of the Reliability Issues Steering Committee had been reflected in the LTRA. Mr. Najafzadeh reviewed the LTRA, noting that it addressed the comments that had been received before the meeting. There was a general discussion of the LTRA, including the impact of nuclear retirements and potential effects on reserve margins. After further discussion, and upon motion duly made and seconded, the Board accepted the LTRA and endorsed the recommendations contained therein.

2015-2016 Winter Reliability Assessment
Ms. Shah reviewed the draft 2015-2016 Winter Reliability Assessment (the “Winter Assessment”), which had been included in the advance meeting materials. She noted that the draft now reflected the comments received from certain trustees. After discussion, and upon motion duly made and seconded, the Board accepted the Winter Assessment and endorsed the recommendations contained therein.

Adjournment
There being no further business, and upon motion duly made and seconded, the meeting was adjourned.

Submitted by,

Charles A. Berardesco
Corporate Secretary
Call to Order and Chair’s Remarks
Mr. Frederick W. Gorbet, Chair, called to order the duly noticed open meeting of the Board of Trustees (“Board”) of the North American Electric Reliability Corporation (“NERC” or the Corporation) in Atlanta, Georgia, on November 5, 2015, at 8:30 a.m. Eastern, and a quorum was declared present. The agenda is attached as Exhibit A.

Present at the meeting were:

Board Members:
Frederick W. Gorbet, Chair
Paul F. Barber
Janice B. Case
Gerald W. Cauley, President and Chief Executive Officer
Robert G. Clarke
David Goulding
George Hawkins
Kenneth G. Peterson
Jan Schori
Roy Thilly

NERC Staff
Valerie Agnew, Senior Director of Reliability Assurance
Charles A. Berardesco, Senior Vice President, General Counsel, and Corporate Secretary
Tina Buzzard, Administrative Associate Director
Howard Gugel, Director of Standards
Stan Hoptroff, Vice President and Chief Technology Officer
Mark G. Lauby, Senior Vice President and Chief Reliability Officer
Sonia Mendonca, Vice President of Enforcement and Deputy General Counsel
James Merlo, Senior Director of Reliability Risk Management
Timothy E. Roxey, Vice President and Chief ES-ISAC Operations Officer
Marcus H. Sachs, Senior Vice President and Chief Security Officer
Janet Sena, Senior Vice President and Director of Policy and External Affairs
Michael Walker, Senior Vice President, Chief Financial and Administrative Officer, and Treasurer
NERC Antitrust Compliance Guidelines
Mr. Berardesco noted the public nature of the meeting and directed the participants’ attention to the NERC Antitrust Compliance Guidelines, which had been included with the advance meeting materials. He offered to answer any questions at any time regarding antitrust compliance or other matters.

Welcoming Remarks/Executive Session
Mr. Gorbet welcomed attendees to the meeting. He recognized that John Anderson, a member of the Member Representatives Committee (“MRC”) and past chair of the MRC, is retiring, and noted his significant service to NERC and reliability. Mr. Gorbet reported that before the open meeting, as is its custom, the Board met in closed session with NERC management, and subsequently in executive session without NERC management, to review NERC management activities. He reserved the remainder of his comments for the later discussion on the ERO Enterprise Strategic Plan.

Consent Agenda
Upon motion duly made and seconded, the Board approved the consent agenda as follows:

Minutes
The draft minutes for the August 13, 2015 Board meeting were approved substantially in the form presented to the Board at the meeting.

Committee Membership Appointments and Charter Revisions

Standards Committee Membership

RESOLVED, that the Board hereby approves the election of the following individual to serve as Chair of the Standards Committee (“SC”), for a term ending December 31, 2017:

• Brian J. Murphy, NextEra Energy, Inc.

FURTHER RESOLVED, that the Board hereby approves the election of the following individual to serve as Vice Chair of the SC, for a term ending December 31, 2017:

• Michelle D’Antuono, Occidental Energy Ventures Corp.

Compliance and Certification Committee Charter

RESOLVED, that the Board hereby approves the revised Compliance and Certification Committee (“CCC”) charter, substantially in the form presented to the Board at this meeting, to replace the CCC charter approved by the Board on May 7, 2015.
FURTHER RESOLVED, that NERC management is hereby authorized to make the appropriate filings with ERO governmental authorities and take such further actions and make such further filings as are necessary and appropriate to effectuate the intent of the foregoing resolution.

**Personnel Certification Governance Committee Membership**

RESOLVED, that the Board hereby reappoints the following individuals to the Personnel Certification Governance Committee (“PCGC”), each for a term ending December 31, 2017:

- Brett Hallborg, BC Hydro
- Michael Anderson, American Electric Power
- Dave Carlson, Exelon Utilities
- Keith Carman, Tri-State G & T
- Michael Hoke, PJM Interconnections, LLC

FURTHER RESOLVED, that the Board hereby appoints the following individual to serve as Chair of the PCGC, for a term ending December 31, 2017:

- Brett Hallborg, BC Hydro

FURTHER RESOLVED, that the Board hereby appoints the following individual to serve as Vice Chair of the PCGC, for a term ending December 31, 2017:

- Michael Anderson, American Electric Power

**Critical Infrastructure Protection Committee**

RESOLVED, that the Board hereby approves the appointment of the following individual to the Critical Infrastructure Protection Committee (“CIPC”), for a term ending December 31, 2017:

- Lisa Carrington, Arizona Public Service

FURTHER RESOLVED, that the Board hereby approves the appointment of the following individual to serve as Chair of the CIPC, for a term ending December 31, 2017:

- Marc Child, Great River Energy

FURTHER RESOLVED, that the Board hereby approves the appointment of the following individuals to serve as Vice Chairs of the CIPC, each for a term ending December 31, 2017:

- David Revill, Georgia Transmission Corporation
- Nathan Mitchell, American Public Power Association
Remarks by FERC Commissioner Cheryl LaFleur
Commissioner LaFleur recognized the presence of FERC staff and the upcoming retirement of Mr. Anderson and his many contributions to NERC and reliability issues. She noted the number of Reliability Standards presented for approval at this meeting, the transition to Risk Based Registration, and the implementation of risk based compliance and enforcement. Commissioner LaFleur noted that she was comfortable providing NERC with greater discretion in addressing lower risk issues due to NERC’s intense focus on higher risk issues. She referenced the “controversial proposals” that FERC recently issued, including those related to supply chain security and data sharing, and opined that she believed they could be addressed through discussion. On the data sharing proposal, Commissioner LaFleur noted the concerns and questions that had already been expressed, but that the purpose of the proposal was to allow for discussion. She urged industry participants to be clear about their concerns and potential alternatives.

Remarks by Bill Spence
Mr. Cauley introduced Mr. Spence, Chairman, President and CEO of PPL Corporation and Chair of the E-ISAC Executive Committee. Mr. Spence thanked NERC’s Board and staff for its support of the E-ISAC, noting that there is a sense of urgency on cybersecurity issues and a need for the power industry to have a leading ISAC. He noted that over the past year, industry and NERC focused on three key initiatives for the E-ISAC, (i) understanding and building its core capabilities, (ii) understanding and enhancing stakeholder use of the E-ISAC, and (iii) identifying how to transform the E-ISAC into the leading ISAC. Since receiving the recommendations from the E-ISAC strategic review, industry and NERC have been moving forward quickly, and Mr. Spence recognized the Board’s support of these efforts, which has been critical in enhancing stakeholder engagement. There is broad industry engagement on the E-ISAC Executive Committee, which is focused on three key priorities, (i) enhancing trust and engagement with industry, (ii) enhancing the Portal, and (iii) enhancing the speed of information distribution. He noted that the CRISP has been integral in addressing the speed of information distribution, with the program being anticipated to have about 30 participants by year end, covering 70% of the nation’s customers. Mr. Gorbet thanked Mr. Spence for his leadership and engagement.

Remarks by Murray Doehler, CAMPUT
Mr. Doehler referenced the continuing commitment of Canadian regulators to the international ERO. He noted that while NERC’s processes may sometimes be perceived as complex, they are necessary to maintain international engagement. Mr. Doehler urged continued work on risk based compliance and enforcement, budget efficiencies, and consideration of cost/benefit in drafting Reliability Standards.

President’s Report
Mr. Cauley noted that November 9th is the 50th anniversary of the 1965 blackout, a key event that affected over 30 million people and led to the first efforts on an industry-wide approach to BPS reliability. He noted the focus on cybersecurity over the past few years, highlighting the positive effects of additional resources and industry/government cooperation such as through
NERC’s GridEx. Mr. Cauley reported on his recent visits with Regional Entities, noting the high quality work being performed at the Regional level. He referenced the progress on risk based compliance and enforcement, including work performed on risk assessment and evaluation of internal controls, but also noted the need to continue the program’s maturation. Mr. Cauley expressed his thanks to FERC for the recent orders on the Regional Delegation Agreements, 2016 Business Plan and Budget, and risk based compliance and enforcement.

Standards
Mr. Gugel presented on the following Reliability Standards projects and the 2016-2018 Reliability Standards Development Plan for approval. After discussion, and upon motions duly made and seconded, the Board approved the following resolutions:

Revisions to Definitions in the NERC Glossary of Terms

WHEREAS, the NERC Standards Committee initiated the “Alignment of Terms” project to better align the defined terms found in the NERC Glossary of Terms (“Glossary”) with those in the NERC Rules of Procedure.

NOW, THEREFORE, BE IT RESOLVED, that the Board hereby adopts proposed revisions to definitions of the following terms in the Glossary, as presented to the Board at this meeting:

Blackstart Resource  Transmission Customer
Bulk Power System  Transmission Operator
Cascading  Transmission Owner
Distribution Provider  Transmission Planner
Element  Transmission Service Provider
Generator Operator
Generator Owner
Interchange Authority
Interconnected Operations Service
Interconnection
Load-Serving Entity
Planning Authority
Point of Receipt
Reactive Power
Real Power
Reliability Coordinator
Reliability Standard
Reliable Operation
Reserve Sharing Group
Resource Planner
System Operating Limit
FURTHER RESOLVED, that the Board hereby approves the associated implementation plan, as presented to the Board at this meeting.

FURTHER RESOLVED, that NERC management is hereby authorized to make the appropriate filings with ERO governmental authorities and take such further actions and make such further filings as are necessary and appropriate to effectuate the intent of the foregoing resolutions.

Reliability Standard PRC-005-6—Protection System, Automatic Reclosing, and Sudden Pressure Relaying Maintenance

RESOLVED, that the Board hereby adopts proposed Reliability Standard PRC-005-6, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the associated implementation plan, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the Violation Risk Factors and Violation Severity Levels for the proposed Reliability Standard, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the following Reliability Standards proposed for retirement, as presented to the Board at this meeting:

- PRC-005-5
- PRC-005-4
- PRC-005-3(ii)
- PRC-005-3(i)
- PRC-005-3
- PRC-005-2(ii)
- PRC-005-2(i)
- PRC-005-2
- PRC-005-1.1b
- PRC-008-0
- PRC-011-0
- PRC-017-0

FURTHER RESOLVED, that NERC management is hereby authorized to make the appropriate filings with ERO governmental authorities and take such further actions and make such further filings as are necessary and appropriate to effectuate the intent of the foregoing resolutions.

**RESOLVED**, that the Board hereby adopts proposed Reliability Standard BAL-002-2, as presented to the Board at this meeting.

**FURTHER RESOLVED**, that the Board hereby approves the associated implementation plan for the proposed Reliability Standard, as presented to the Board at this meeting.

**FURTHER RESOLVED**, that the Board hereby approves the new NERC Glossary definitions, as presented to the Board at this meeting.

**FURTHER RESOLVED**, that the Board hereby approves the Violation Risk Factors and Violation Severity Levels for the proposed Reliability Standard, as presented to the Board at this meeting.

**FURTHER RESOLVED**, that the Board hereby approves the retirement of the BAL-002-0 and BAL-002-1 Reliability Standards, as presented to the Board at this meeting.

**FURTHER RESOLVED**, that NERC management is hereby authorized to make the appropriate filings with applicable regulatory authorities and take such further actions and make such further filings as are necessary and appropriate to effectuate the intent of the foregoing resolutions.

Reliability Standard MOD-031-2—Demand and Energy Data

**RESOLVED**, that the Board hereby adopts proposed Reliability Standard MOD-031-2, as presented to the Board at this meeting.

**FURTHER RESOLVED**, that the Board hereby approves the associated implementation plan for the proposed Reliability Standard, as presented to the Board at this meeting.

**FURTHER RESOLVED**, that the Board hereby approves the Violation Risk Factors and Violation Severity Levels for the proposed Reliability Standard, as presented to the Board at this meeting.

**FURTHER RESOLVED**, that the Board hereby approves the retirement of the MOD-031-1 Reliability Standard, as presented to the Board at this meeting.

**FURTHER RESOLVED**, that NERC management is hereby authorized to make the appropriate filings with applicable regulatory authorities and take such further actions and make such
further filings as are necessary and appropriate to effectuate the intent of the foregoing resolutions.

Reliability Standard PRC-027-1—Coordination of Protection Systems for Performance During Faults

RESOLVED, that the Board hereby adopts the proposed Reliability Standard PRC-027-1, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the associated implementation plan for the proposed Reliability Standard, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the new NERC Glossary definition, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the Violation Risk Factors and Violation Severity Levels for the proposed Reliability Standard, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the retirement of the PRC-001-1.1(ii) Reliability Standard, as presented to the Board at this meeting.

FURTHER RESOLVED, that NERC management is hereby authorized to make the appropriate filings with applicable regulatory authorities and take such further actions and make such further filings as are necessary and appropriate to effectuate the intent of the foregoing resolutions.

2016-2018 Reliability Standards Development Plan

RESOLVED, that the Board hereby adopts the proposed 2016-2018 Reliability Standards Development Plan, as presented to the Board at this meeting.

FURTHER RESOLVED, that NERC management is hereby authorized to make the appropriate filings with applicable regulatory authorities, and take such further actions and make such further filings as are necessary and appropriate to effectuate the intent of the foregoing resolutions.

Risk-Based Registration
Ms. Agnew presented the Risk-Based Registration Whitepaper, referencing the full presentation at the previous day’s MRC meeting. Mr. Cauley noted the fundamental approach was to better focus registration requirements, but that more work needed to be performed going forward, including potentially focusing on specific classes of registered entities. After discussion, and upon motion duly made and seconded, the following resolutions were approved:
RESOLVED, that the Board hereby accepts the Whitepaper to the Board of Trustees on Risk-Based Registration, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby endorses the recommendations set forth in the report, as presented to the Board at this meeting.

Compliance Guidance Policy
Ms. Agnew introduced Mr. Sylvain Clermont, MRC Chair, who led the working group on compliance guidance. He referenced the presentation at the previous day’s MRC meeting, noting that the MRC had endorsed the Board’s acceptance of the proposed policy. Upon motion duly made and seconded, the following resolutions were approved:

RESOLVED, that the Board hereby accepts the Compliance Guidance Policy, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby endorses the recommendations as set forth in the Compliance Guidance Policy, as presented to the Board at this meeting.

Rules of Procedure Amendments - Alignment of Terms, CIP Version 5 Compatibility, and Periodic Review of Reliability Standards
Mr. Gugel presented the proposed Rules of Procedure amendments, which had been included in the advance meeting materials and had been posted for comments in accordance with NERC policies. Upon motion duly made and seconded, the following resolutions were approved:

RESOLVED, that the Board of Trustees hereby approves the proposed amendments to the NERC Rules of Procedure, as presented to the Board at this meeting.

FURTHER RESOLVED, that NERC management is hereby authorized to make the appropriate filings with applicable regulatory authorities, and take such further actions and make such further filings as are necessary and appropriate to effectuate the intent of the foregoing resolution.

2015 ERO Reliability Risk Priorities: RISC Recommendations
Mr. Peter Brandien, Chair of the Reliability Issues Steering Committee (“RISC”), presented the RISC-endorsed 2015 ERO Reliability Risk Priorities, noting that they had been reviewed at the previous day’s MRC meeting. He expressed his thanks to NERC staff supporting the RISC’s work. Mr. Cauley noted that the document should be considered the “guiding document” for the ERO risk profile. Upon motion duly made and seconded, the following resolution was approved:

RESOLVED, that the Board hereby accepts the 2015 ERO Reliability Risk Priorities: RISC Recommendations to the Board and technical supplement, as presented to the Board at this meeting.
**ERO Enterprise Strategic Planning**

Mr. Lauby summarized the 2016-2019 ERO Enterprise Strategic Plan (the “Plan”) document and related metrics, noting that they had been reviewed at the previous day’s MRC meeting. Mr. Cauley noted the collaboration amongst the ERO Enterprise and consensus around the Plan and related metrics, and that it should be a valuable guiding document for the Regional Entities. Mr. Gorbet noted the comments from CEA and the need for enhancing the alignment of goals and metrics. Mr. Thilly recommended the tightening of certain metrics and the inclusion of supplemental information on the state of current metrics for evaluative purposes.

Mr. Gorbet referenced the joint meeting of the ERO Enterprise board leadership, and noted that the meeting had focused on the changing resource mix and the FERC data sharing proposed rule. He referenced Commissioner LaFleur’s comment on NERC’s appropriate focus on greater risk areas, and noted that NERC is evolving, because of its risk based approach, to become more forward looking – trying to “get ahead of the curve” analytically. Mr. Gorbet stated that the approach is enabled by involvement of experts, NERC’s independence and the availability of industry data, noting that NERC had built a trusting environment with stakeholders to better enable access to timely, high-quality data. He expressed his concern that a FERC rule mandating data access would create a chilling effect on industry data sharing, noting perceptions related to use of data for enforcement and confidentiality concerns, and an overall concern about FERC, as a government regulator, moving to intercept the data stream. Mr. Gorbet stated that this could compromise the ERO’s role, which is one that FERC wants NERC to perform. He stated that he takes the need to provide alternative approaches seriously and is hopeful that there can be a positive way forward.

Mr. Cauley noted that while there is regulatory oversight of a complex industry, a key part of the success of that oversight is trust. NERC’s ability to be a data-driven organization is based in large part on industry trust. He expressed his concern that if the FERC proposal is adopted, there will be a move back to a more traditional regulatory model regarding industry data sharing, which would adversely affect NERC’s efforts.

After discussion, and upon motion duly made and seconded, the following resolutions were approved:

**RESOLVED,** that the Board hereby approves the proposed ERO Enterprise Strategic Plan 2016-2019, substantially in the form presented to the Board at this meeting.

**FURTHER RESOLVED,** that the Board hereby approves the proposed 2016 ERO Enterprise and Corporate Metrics, substantially in the form presented to the Board at this meeting.

**Section 1600 Data Request**

Mr. Merlo presented the proposed actions relating to Section 1600 data requests, noting that the detailed information was included in the advance meeting materials. After discussion, and upon motion duly made and seconded, the following resolutions were approved:
RESOLVED, that the Board hereby approves the collection of performance data from wind power plants as an addition to the existing Section 1600 Generator Availability Data System data request, as presented to the Board at this meeting.

FURTHER RESOLVED, that the Board hereby approves the removal of the request to collect transmission Planned Outages data for the Transmission Availability Data System from the Section 1600 Transmission Availability Data System data request, as presented to the Board at this meeting.

Southwest Power Pool, Inc. Amendments to Bylaws
Mr. Berardesco summarized the proposed amendments to the Southwest Power Pool, Inc. (“SPP”) Bylaws. He stated that NERC staff reviewed the proposed revisions to the Bylaws to ensure that they met the criteria set forth in the Regional Delegation Agreement between NERC and SPP and any other applicable regulations, and found no discrepancies. He recommended the proposed revisions for approval. Upon motion duly made and seconded, the following resolution was approved:

RESOLVED, that the Board hereby approves the amended and restated Southwest Power Pool, Inc. Bylaws, as presented to the Board at this meeting.

Standing Committee Reports
Representatives of the Standing Committees provided reports to the Board highlighting items from their written reports, which had been included with the advance meeting materials.

Operating Committee
Jim Case, Committee Chair, summarized several key efforts, including the essential reliability services task force report, the frequency response initiative in the Eastern Interconnection, and field tests of possible Reliability Standards.

Planning Committee
Brian Evans Mongeon, Committee Vice Chair, summarized the written report, including efforts on the Long Term Reliability Assessment.

Critical Infrastructure Protection Committee
Chuck Abell, Committee Chair, summarized and highlighted portions of the written report.

Member Representatives Committee
Mr. Clermont, MRC Chair, summarized the issues that had been discussed at the MRC meeting on the previous day, highlighting the discussions on compliance guidance. On the pending FERC notice of proposed rulemaking on data access, he urged all commentators to provide constructive commentary. Mr. Gorbet congratulated the new MRC leadership on their elections.

Personnel Certification Governance Committee
Michael Anderson, Committee Vice Chair, summarized the written report, noting the pass rates, an improved budgeting process, and internal audit results.

**Standards Committee**
Fred Plett, Committee Vice Chair, referenced the written report, and also expressed his congratulations and appreciation to Mr. Anderson on his retirement.

**Reliability Issues Steering Committee**
Mr. Brandien, Committee Chair, discussed the Committee’s focus for the remainder of 2015, and efforts to modify the annual schedule to allow for earlier input into the NERC Strategic Plan.

**Compliance and Certification Committee**
Ms. Patti Metro, Committee Chair, noted the Committee’s written report and requested approval of the Committee’s 2016 Work Plan. Upon motion duly made and seconded, the following resolution was approved:

**RESOLVED**, that the Board, upon recommendation of the Compliance and Certification Committee (“CCC”), hereby approves the CCC 2016 Work Plan, as presented to the Board at this meeting.

**Electricity Sub-Sector Coordination Council**
Mr. Cauley referenced the earlier report from Mr. Spence, and noted the active engagement of industry chief executives. David Ortiz, of the Department of Energy, summarized his office’s work in the cybersecurity arena.

**Forum and Group Reports**

**North American Energy Standards Board**
Michael Desselle, NAESB Chair, referenced NAESB’s written report and noted the continuing work on the MOD standards and contract path issues.

**North American Generator Forum**
Allen Schriver, Forum CEO, referenced the written report.

**North American Transmission Forum**
Tom Galloway, Forum CEO, referenced the Forum’s written report, noting the addition of new members, the cold weather seminar, the comprehensive resiliency seminar, and the evaluation of the Forum’s role in the development of compliance guidance.

**Regional Entity Management Group**
Scott Henry, Group Chair, referenced the written report, noting the active engagement of the REMG executives on ERO Enterprise priority areas, the decline in the number of severe events, the evaluation of opportunities for efficiencies, and working across the Regions and the importance of
allowing for regional differences. As he stepped down as the REMG chair, Mr. Henry expressed his thanks to Carter Edge, Andrea Koch, and Erika Chanzes.

**Board Committee Reports**

**Corporate Governance and Human Resources Committee**
Ms. Schori, Committee Chair, summarized the Committee’s meeting from the prior day. She presented the proposed Trustee compensation philosophy that would be included in the NERC Governance Guidelines, incorporating the MRC leadership’s suggestions. Upon motion duly made and seconded, the following resolution was approved:

**WHEREAS,** the Board’s Corporate Governance and Human Resources Committee (the “CGHRC”) is required to annually review the compensation program for independent Trustees and to make recommendations to the Board, as appropriate.

**WHEREAS,** the CGHRC, upon the Board’s direction, has developed and recommended an independent Trustee compensation philosophy to be included as Section 16 of the NERC Governance Guidelines.

**NOW, THEREFORE, BE IT RESOLVED,** that the Board hereby approves the independent Trustee compensation philosophy to be included in the NERC Governance Guidelines, as presented to the Board at this meeting.

Ms. Schori also presented proposed modifications to the Committee’s Mandate. Upon motion duly made and seconded, the following resolution was approved:

**RESOLVED,** that the Board hereby approves the revised Corporate Governance and Human Resources Committee Mandate, as presented to the Board at this meeting.

**Compliance Committee**
Ms. Case, Committee Chair, summarized the recent closed executive and open sessions of the Committee, including the work on compliance metrics, implementation of CIP v5 and CIP 14, and the updates on the risk based compliance and enforcement program.

**Finance and Audit Committee**
Mr. Thilly, Committee Chair, requested Board acceptance of the third quarter statement of activities, noting NERC’s staff’s excellent work. Upon motion duly made and seconded, the following resolution was approved:

**RESOLVED,** that the Board, upon recommendation of the Finance and Audit Committee, hereby accepts the NERC Third Quarter 2015 Unaudited Statement of Activities, as presented to the Board at this meeting.
Mr. Thilly noted that the Committee had recommended an update to its Mandate and had approved engaging Grant Thornton for the 2015 audits.

**Enterprise-wide Risk Committee**
Mr. Goulding, Committee Chair, reported that the Committee had met in a closed meeting and received updates on the current year audit plan, activities related to prior audits, risk management activities, and the work of the CCC. The Committee also recommended revisions to its Mandate.

**Standards Oversight and Technology Committee**
Mr. Peterson, Committee Chair, reported that the Committee continues to monitor the overall Information Technology plan, and had recommended revisions to its Mandate.

**Nominating Committee**
Mr. Barber, Committee Chair, reported on the Committee’s efforts.

**Closing Remarks**
In his closing remarked, Mr. Gorbet acknowledged the NERC staff who worked on the meeting and noted the outstanding presentations at the meeting. He commented that NERC has progressed a great deal over the last several years and is well positioned to address upcoming reliability issues.

**Adjournment**
There being no further business, and upon motion duly made and seconded, the meeting was adjourned.

Submitted by,

Charles A. Berardesco
Corporate Secretary
Compliance and Certification Committee Membership

Action
Approve

Background
The Compliance and Certification Committee (CCC) is recommending that the Board of Trustees (Board) approve the appointments of three new CCC representatives. All appointments are for a three-year term effective upon the date of Board approval.

The CCC respectfully requests the Board approve the following new membership appointments:

- Vicki O’Leary, National Grid, representing Northeast Power Coordinating Council
- Martha Henson of Oncor Electric Delivery Company, representing Texas Reliability Entity, Inc.
- Thomas A. McDonald, Bonneville Power Administration – Department of Energy, representing Federal/Provincial Utility/Power Authority
**Planning Committee Membership**

**Action**
Approve

**Planning Committee Special Election Results — Term 2015–2017**

<table>
<thead>
<tr>
<th>Sector</th>
<th>Elected Member</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. State/Municipal Utility</td>
<td>Kenneth Stone, Braintree Electric Light Department</td>
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Critical Infrastructure Protection Committee Membership

Action
Approve

Background
Section 7 of the Critical Infrastructure Protection Committee (CIPC) Charter provides that, at the December meeting in odd-numbered years, CIPC shall elect four Executive Committee members who are subject matter experts in one of the following areas: Cyber Security, Physical Security, Operations, and Policy.

At the December CIPC meeting, the following Executive Committee Subject Matter Experts were elected to serve for a term of two years, commencing January 1, 2016:

- CYBERSECURITY SME – Joe Garmon, Seminole Electric Cooperative
- PHYSICAL SECURITY SME – David Grubbs, City of Garland
- OPERATIONS SME – John Galloway, ISO New England
- POLICY SME – Ross Johnson, Capital Power
Project 2014.2.1 Phase 2 of Balancing Authority Reliability-based Controls (BAL-005, BAL-006, FAC-001)

Action
Adopt the following standards documents and direct staff to file with applicable regulatory authorities:

- BAL-005-1 Balancing Authority Control
  - [BAL-005-1 - Clean] [BAL-005-1 – Redlined to last approved]
- FAC-001-3 Facility Interconnection Requirements
  - [FAC-001-3 - Clean] [FAC-001-3 – Redlined to last approved]
- Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs)
  - BAL-005-1 Balancing Authority Control [BAL-005-1 VRFs and VSLs]
  - FAC-001-3 Facility Interconnection Requirements [FAC-001-3 VRFs and VSLs]
- Implementation Plans
  - [BAL-005-1 Implementation Plan]
  - [BAL-006-2 Implementation Plan]
  - [FAC-001-3 Implementation Plan]
- Definitions
  - Actual Frequency ($F_A$)
  - Actual Net Interchange (NIA)
  - Scheduled Net Interchange (NIS)
  - Interchange Meter Error (IME)
  - Automatic Time Error Correction (IATEC)
  - Reporting ACE
  - Automatic Generation Control (AGC)
  - Pseudo-Tie
  - Balancing Authority
- Retirements
  - BAL-005-0.2b – Automatic Generation Control
  - BAL-006-2 Inadvertent Interchange
  - FAC-001-2 Facility Interconnection Requirements
Background
On September 19, 2013, the NERC Standards Committee (SC) appointed subject matter experts to serve on the BARC 2 periodic review team (BARC 2 PRT). As part of its review, the BARC 2 PRT used background information on Reliability Standards BAL-005-0.2b and BAL-006-2 and the questions set forth in the Periodic Review Template developed by NERC and approved by the SC, along with associated worksheets and reference documents, to determine whether BAL-005-0.2b and BAL-006-2 should be: (1) affirmed as is (i.e., no changes needed); (2) revised (which may include revising or retiring one or more requirements); or (3) withdrawn. Based on the periodic review and an industry survey concerning the disposition of the remaining requirements in BAL-006-2, the standard drafting team appointed by the NERC Standards Committee for Project 2010-14.2.1 developed revisions to the BAL-005-0.2b and FAC-001-2 Reliability Standards and modifications to several definitions in the NERC Glossary, proposed to retire BAL-006-2, and committed to develop an Inadvertent Interchange Guideline for industry.

Project 2010-14.2.1 addresses directives from FERC Order No. 693 and FERC Order No. 810, provides additional clarity to many requirements, and retires requirements that meet the criteria developed in the Paragraph 81 project.

Pertinent FERC Order No. 693 and Order No. 810 directives

Order 693 Paragraph 420
"The Commission approves Reliability Standard BAL-005-0 as mandatory and enforceable. In addition, pursuant to section 215(d)(5) of the FPA and § 39.5(f) of our regulations, the Commission directs the ERO to develop a modification to BAL-002-0 through the Reliability Standards development process that: (1) develops a process to calculate the minimum regulating reserve a balancing authority must have at any given time taking into account expected load and generation variation and transactions being ramped into or out of the balancing authority; (2) changes the title of the Reliability Standard to be neutral as to the source of regulating reserves and to allow the inclusion of technically qualified DSM and direct control load management; (3) clarifies Requirement R5 of this Reliability Standard to specify the required type of transmission or backup plans when receiving regulation from outside the balancing authority when using nonfarm service and (4) includes Levels of Non-Compliance and a Measure that provides for a verification process over the minimum required automatic generation control or regulating reserves a balancing authority must maintain."

Order 810 Paragraph 43
"The Commission is persuaded by BPA’s comments that a revision to the definition of Reporting ACE is warranted. In its petition, NERC states that currently-effective Reliability Standard BAL-001-1 includes a WECC regional variance which has been incorporated into the continent-wide Reliability Standard BAL-001-2 through the definition of Reporting ACE. However the definition of Reporting ACE does not include the “Lmax” upper payback limit and the bounds of that upper payback limit in the definition. Accordingly, the Commission directs NERC to revise the definition of Reporting ACE to include the “Lmax” upper payback limit and the bounds of that upper payback limit prior to the effective date of Reliability Standard BAL-001-1."
Standard Development Process

Initial drafts of Reliability Standards BAL-005-1, BAL-006-2 and FAC-001-3 were posted for an initial industry comment period from July 30, 2015 through September 14, 2015, with a ballot that was conducted from September 4, 2015 through September 14, 2015. The initial drafts failed to achieve the two-thirds industry approval necessary for passage under the NERC Rules of Procedure. A second draft of the standards was posted for industry comment and ballot from November 10, 2015 through January 11, 2016, with a ballot that was conducted from December 31, 2015 through January 11, 2016. This ballot resulted in the following industry approval ratings and quorums.

- BAL-005-1 Balancing Authority Control
  Approval – 70.22%
  Quorum – 83.49%
- BAL-006-2 Inadvertent Interchange
  Approval – 93.86%
  Quorum – 83.49%
- FAC-001 Facility Interconnection Requirements
  Approval – 75.34%
  Quorum – 82.54%

The final ballot for BAL-005-1 Balancing Authority Control, BAL-006-2 Inadvertent Interchange and FAC-001-3 Facility Interconnection Requirements standards closed after these materials were distributed and will be presented at the February 2016 Board meeting.

Unresolved Minority Issues

There were no unresolved minority issues.

Additional Information

A link to the project history and files is included here for reference:

[Project 2010-14.2.1 Phase 2.1 Balancing Authority Reliability-based Controls]

Reliability Standard Audit Worksheet (RSAW)

[BAL-005-1 Draft RSAW]
[FAC-001-3 Draft RSAW]
Project 2010-07.1 Vegetation Management (FAC-003)

Action
Adopt the following standard documents and authorize NERC staff to file with applicable regulatory authorities:

- FAC-003-4 – Transmission Vegetation Management
  [FAC-003-4 - Clean] [FAC-003-4 - Redline to last approved]
- Violation Risk Factors (VRFs) and Violation Severity Levels (VSLs) for FAC-003-4
  The Standard Drafting Team made no modifications to the VRFs and VSLs for FAC-003-4.
- Implementation Plan for FAC-003-4
  [FAC-003-4 Implementation Plan]
- Retirements
  - FAC-003-3 – Transmission Vegetation Management

Background
In FERC Order No. 777 (at P 3), the Commission stated that while it

“This approve[d] NERC’s use of the Gallet equation to determine the minimum vegetation clearance distances, ... it is important that NERC develop empirical evidence that either confirms assumptions used in calculating the MVCD values based on the Gallet equation, or gives reason to revisit the Reliability Standard. Accordingly, ...the Commission directed NERC to “conduct or contract testing to obtain empirical data and submit a report to the Commission providing the results of the testing.”

Therefore, NERC retained the Electric Power Research Institute (EPRI) to conduct testing to support appropriate Minimum Vegetation Clearance Distances (MVCDs) specified in NERC Reliability Standard FAC-003-2 (and later, Reliability Standard FAC-003-3). In particular, the MVCDs in the Standard are calculated based on application of the Gallet equation and use of a gap factor of 1.3. Through EPRI’s assistance, in tests finalized in 2015, NERC determined that the current gap factor of 1.3 should be adjusted to a value of 1.0, which would result in increased MVCD values compared to those specified in the existing Reliability Standard.

On August 12, 2015, NERC filed a copy of EPRI’s final study with the Commission, and noted that NERC anticipated initiating a project to adjust the MVCD values in the Reliability Standard to reflect the study results. Specifically, the resulting adjustment for a 1.0 gap factor will increase MVCDs for all alternating current system voltages covered by Table 2 of the Reliability Standard.
**Pertinent Directives**
None. NERC’s August 12, 2015 filing at FERC with the results of the EPRI testing, addressed the directive in Order No. 777, at P 3. Proposed Reliability Standard FAC-003-4, would incorporate the results of that testing into an updated version of the Reliability Standard.

**Standard Development Process**
FAC-003-4 was balloted twice through an initial and final ballot. This standard received an approval rating of 82.56 percent on the initial ballot, which concluded on December 16, 2015. Non-substantive changes were made to the draft standard to address comments provided by Industry. The results from the final ballot will be presented at the February Board meeting.

**Minority Issues**
There are no unresolved minority issues.

**Additional Information**
A link to the project history and files is included here for reference:

[FAC-003-4 Transmission Vegetation Management]

- **Reliability Standard Audit Worksheet (RSAW)**
  [FAC-003-4 Draft RSAW]
Midwest Reliability Organization Regional Reliability Standard Processes Manual Revisions

Actions
Approve the following standards documents and authorize staff to file with applicable regulatory authorities:

- MRO Regional Reliability Standards Process Manual
  [MRO Regional Reliability Standards Process Manual - Clean]
  [MRO Regional Reliability Standards Process Manual - Redline]

Background
Midwest Reliability Organization (MRO) has completed a revision to its Regional Reliability Standard Processes Manual (SPM). The revisions include: (1) minor typo and grammatical changes; (2) changes to language to reflect that MRO is a cross-border Regional Entity; and (3) changes to eliminate the reference to RSVP as the specific system that MRO would use for balloting purposes under the SPM.

As required by the Section 311 of the NERC Rules of Procedure, NERC Staff conducted a careful review of MRO’s Regional Reliability SPM and concluded the document met all of the evaluation criteria. The Regional Reliability SPM was posted on the NERC website for industry stakeholder comment from November 5 to December 21, 2015. There were no comments received.

Additional Information
A link to the project history and files is included here for reference:
http://www.mro.webvote.oati.net/mro_rsvp/action/PubMainAction?type=Detail&id=33
TOP-007-WECC-1a - System Operating Limits

Action
Retire the following Regional Reliability Standard and authorize NERC staff to request approval of the retirement with applicable regulatory authorities:

- Regional Reliability Standard TOP-007-WECC-1a
  [TOP-007-WECC-1a]

Background
On June 18, 2014, the Federal Energy Regulatory Commission (FERC) approved the Regional Reliability Standard, TOP-007-WECC-1a (System Operating Limits). A Standards Authorization Request (SAR) was submitted to WECC on December 17, 2014, stating that the entire reliability-related substance of TOP-007-WECC-1a is redundant to other continent-wide Reliability Standards and is no longer needed to support reliability. The WECC Board of Directors approved its retirement on December 1, 2015.

Summary
The WECC Drafting Team reviewed NERC Standards, both in effect and those filed and pending regulatory approval, and concluded that the Regional Reliability Standard TOP-007-WECC-1a should be retired in its entirety, as the reliability-related substance is addressed in other NERC Reliability Standards.

NERC posted the Regional Reliability Standard for a 45-day public comment period on August 13, 2016, and no comments were received. NERC staff reviewed the Regional Reliability Standard and agrees that the Regional Reliability Standard should be retired.

It remains the intent of WECC to support the development of consistent NERC continent-wide Reliability Standards. With the existence of continent-wide standards and the development of the certain NERC Reliability Standards pending regulatory approval, there is no reliability benefit to Regional Reliability Standard TOP-007-WECC-1a.

Pertinent FERC Order No. 693 directives
None.

Additional Information
A link to the project history and files is included here for reference:

WECC-0111 TOP-007-WECC-1a
Rules of Procedure Revisions to Comply with 
Federal Energy Regulatory Commission Directives

**Action**

Approve the proposed revisions to Section 401.11 and Appendix 4C of the North American Electric Reliability Corporation (NERC) Rules of Procedure and direct staff to file the revised Rules of Procedure with the appropriate regulatory authorities for approval.

**Attachment 1** Redline Changes to Section 401.11

**Attachment 2** Redline Changes to Appendix 4C

**Attachment 3** Consideration of Comments, Section 401.11 and Appendix 4C

**Background and Process**

On November 3, 2014, NERC submitted an informational filing to the Federal Energy Regulatory Commission (FERC or the Commission) describing the Reliability Assurance Initiative.1 Through this initiative, the ERO Enterprise designed and tested changes to its compliance monitoring and enforcement activities to focus on higher reliability risks to the Bulk Power System. In a February 19, 2015 order, FERC approved NERC’s implementation of the risk-based Compliance Monitoring and Enforcement Program (CMEP),2 and directed NERC, among other things, to propose revisions to the Rules of Procedure that reflect the risk-based approach to compliance monitoring and enforcement.3 On July 6, 2015, NERC submitted a compliance filing proposing revisions to the Rules of Procedure to recognize risk-based CMEP processes and concepts, as directed by the Commission. In a November 4, 2015 order, FERC conditionally accepted the July 6, 2015 compliance filing, subject to NERC making a subsequent 2016 compliance filing to further modify the Rules of Procedures as directed in the November 4 Order.4

The proposed revisions include input from the Regional Entities. In addition, NERC posted its Rules of Procedure revisions publicly on November 30, 2015 for a comment period ending on January 14, 2016. NERC received four sets of comments from industry stakeholders regarding the Rules of Procedure revisions. The commenters’ primary concerns related to the public posting of compliance exceptions addressed in Section 401.11. The commenters raised the potential issue that the language could be read to permit the release of certain confidential information. Under the Rules of Procedure, confidential information is protected by Section 1500. However, to alleviate any such concerns, NERC included additional language in the proposed revisions to Section 401.11 that makes any information release explicitly subject to Section 1500. All of the comments received are described in Attachment 3, through the hyperlink provided above. The actual submittals are also posted on the Rules of Procedure page of the NERC website.

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2 Following the completion of the Reliability Assurance Initiative in early 2015, NERC refers to the ongoing program as the “risk-based CMEP.”


The final version of the proposed revisions to Section 401.11 and Appendix 4C, which reflects the input referenced above, as well as the document explaining how each comment was considered (Consideration of Comments) were posted on the NERC website on January 26, 2016, at least 15 days prior to consideration of these revisions by the Board of Trustees, as contemplated in NERC’s process for proposed revisions to the Rules of Procedure.

**Section-by-Section Revisions**

NERC proposes to revise Rules of Procedure Section 401 and Appendix 4C Sections 3.5A, 5.1, and 9.2. These revisions are addressed below.

A. **Section 401: Scope of the NERC CMEP**

FERC directed NERC to publicly post compliance exceptions in a previous order. Although NERC has complied with this directive, NERC had not revised Section 401.11, which addresses public posting, to acknowledge this practice. To accomplish this, NERC proposes to insert in Section 401.11:

As required by an Applicable Governmental Authority, NERC will also post information concerning noncompliance disposed of as Compliance Exceptions, subject to Section 1500 of these Rules of Procedure.

B. **Appendix 4C Section 3.5A: Self-Logging**

The November 4 Order directed NERC to include the Regional Entity’s self-logging review period in the Rules of Procedure as described in NERC’s November 3, 2014 filing. To comply with this directive, NERC proposes to modify Appendix 4C, Section 3.5A as follows:

The Compliance Enforcement Authority will periodically review the logs at least every three (3) months, with the possibility of extending the review period to six (6) months, and will make...

C. **Appendix 4C Section 5.1: Notice of Possible Violation**

The November 4 Order directed NERC to acknowledge that NERC currently provides FERC staff with a non-public, preliminary notice of self-logged matters received by Regional Entities. In response, NERC proposes to revise Section 5.1 to reflect this practice as follows:

Upon issuing a Notice of Possible Violation or receiving information on a Compliance Exception (whether resulting from Self-Logging or not), the Compliance Enforcement Authority reports...” and “...and submits a Notice of Possible Violation, or information on a Compliance Exception (whether resulting from Self-Logging or not), on a confidential basis, to FERC...
D. Appendix 4C Section 9.2: Retention Requirements

Finally, FERC identified that NERC’s data retention requirements for the ERO Enterprise do not cover data and information related to self-logging. To expand NERC’s data retention requirements to include this data, NERC proposes changes to Section 9.2 as follows:

The Compliance Enforcement Authority records management policy will require that information and data generated or received pursuant to CMEP activities, including but not limited to, Self-Logging, Compliance Audits...
Outreach and Follow-up of Reliability Assessment Reports

Action
Discussion

Background
As part of NERC’s reliability assessment, outreach and coordination of key findings and recommendations is a critical phase of the Electric Reliability Organization’s (ERO’s) assessment obligations. Prior to completion of a special reliability assessment or NERC’s annual Long-Term Reliability Assessment, an outreach and coordination plan is developed that serves to assure that the target audience has been reached and the key messages are understood. The plan identifies the target audience groups, whether industry, federal, state or provincial regulators, policymakers, or other special interest groups, and the means through which the most effective communication platform can be achieved. In general, these platforms include closed meetings, open meeting forums, technical and/or policy conferences, webinars, multimedia presentations, as well as direct one-on-one coordination. The objective of these coordination efforts focus on establishing a dialogue around technical challenges, recommendations for action, and forming a feedback loop so NERC can be assured that identified parties have integrated bulk power system reliability considerations into their processes and/or policies.

Outreach occurs to many identified groups—generally, the target audience—prior to the release of the report, providing advanced notice on the timing and general messaging of the assessments. Often, a deeper review of the approach and methods used are discussed. Feedback is provided and often incorporated into NERC’s assessment. As a result of this outreach, NERC’s reports are anticipated by targeted audiences (for example, federal agencies request the timing of a report’s release), and NERC coordinates messaging and responses. This may involve in some cases being called to testify to Congress or at the National Association of Regulatory Utility Commissioners (NARUC) meetings on report specifics.

Separately, outreach occurs with media, including press releases and announcements, which, along with related talking points, are also shared with the ERO Enterprise’s Regional Communicators Group and Regional Executives. Webinars are held with media across North America, providing an opportunity for NERC’s assessment team and executives to field questions and explain the complex and technical nature of the results. This process has led to sustained interest in NERC’s reliability assessments, resulting in significant coverage in numerous news outlets.

Currently, NERC uses several venues to engage industry, regulators and policy makers, which include established points of contact throughout the industry and government, as well as known conferences and meetings. For example, through coordination with NARUC, NERC has participated in their quarterly meetings providing a forum of state utility regulators and staffers engaged in important policy decisions. It would be difficult for NERC to coordinate with every state utility commission due to the sheer amount of agencies; however, the NARUC forum gathers all state regulators and enables NERC to share a consistent message to all 48 states interconnected to the bulk power system.
NERC’s ongoing outreach and coordination plan ensures key messages and recommendations are shared with FERC, NARUC, Department of Energy, Environmental Protection Agency, the White House executive office staff, Congress, Canadian federal and provincial regulators, stakeholders, and various trade groups, both prior to release and after release of assessments.¹

Further, NERC’s annual Long-Term Reliability Assessment provides a vehicle to assure that recommendations made in special and earlier long-term reliability assessments are being followed and industry plans include mechanisms to ensure reliability.

**Essential Reliability Services Reports and Assessments**
Over the past five years, NERC’s External Affairs team has worked with the Reliability Assessments team to develop a coordinated and structured approach for outreach and coordination. This process was followed for the Essential Reliability Services Task Force (ERSTF) report and the final stages of this outreach are nearing completion. The ERSTF report is one of the first where the topic and application based on the changing resource mix will require an ongoing conversation with state regulatory officials. This outreach is facilitated through the participation of state utility commissioners on the Member Representatives Committee, coordination with the Regional Entities as they obtain feedback and engage with the states in their regions, and an ongoing relationship with NARUC. Additionally, NERC has worked closely with the Federal Energy Regulatory Commission to establish needed changes within its market rule and interconnection requirement authority. This coordination has led to a successful implementation of market options for frequency response, as well as ensuring all new resources interconnected to the bulk power system provide reactive support.

The following materials were designed specifically for NERC’s outreach and coordination efforts and support NERC’s development of reliability guidance and information sharing with policy makers:

- 1-Pager Abstract Document on Essential Reliability Services
- Multimedia Animations on Essential Reliability Service Concepts

**Clean Power Plan Reports and Assessments**
A similar outreach and coordination plan is underway with NERC’s focus and published assessments on the Clean Power Plan. Coordination with states is particularly important with this assessment, as the focus relies on ensuring state policy decisions are aligned with, and consider, the reliability of the bulk power system. A primary role for NERC in this outreach plan is for NERC and its technical experts to be available as a resource to state plan developers. NERC desires to participate and work with state plan developers (from any agency) on reliability considerations and potential challenges as well as opportunities that may arise with a particular plan.

¹ The acronyms represent the Federal Energy Regulatory Commission, National Association of Regulatory Utility Commissioners, Department of Energy, and Environmental Protection Agency.
E-ISAC Quarterly Update

Action Informaion

Background
The Electricity Information Sharing and Analysis Center’s (E-ISAC) mission is to be a leading, trusted source that analyzes and shares Electricity Subsector security information. The E-ISAC gathers security information, coordinates incident management, and communicates mitigation strategies with stakeholders within the Electricity Subsector, across interdependent sectors, and with government and private partners. This quarterly report covers activity during the months of October through December 2016.

Summary
During the fourth quarter of 2015, E-ISAC significantly increased the amount of data collection, analysis, and reporting for cyber and physical events affecting the electricity sector. Activity that the E-ISAC reported from October to December included:

- 129 typosquatting notifications
- 184 E-ISAC staff posts to the portal
- 47 member responses to the portal items
- 46 additional posts to the portal from members
- 70 calls to the E-ISAC hotline

The E-ISAC continued to publish a weekly summary to the Electricity Subsector every Monday morning and began issuing a monthly summary report in October. Monthly webinars averaged about 250 participants. A daily report was launched in January 2016, as well as an annual report. Monthly CRISP executive reports continued, and a quarterly CRISP report will start in 2016.

The E-ISAC conducted two major events, GridSecCon in October and GridEx III in November. Initial findings from GridEx III were published in early December, and the final report will be issued in March 2016.

Staffing for the E-ISAC was completed with the arrival of the final watch officer in December. There are now 21 NERC employees working from the Washington, D.C. office and one in Atlanta, plus three additional contract support personnel in the Washington, D.C. office.

The E-ISAC’s physical facility renovation was completed in the summer of 2015, and installation of new information technology equipment that will support a separation of the E-ISAC’s enterprise systems from NERC’s systems began in December. Completion of the separation project is expected by March 2016.
The E-ISAC’s Member Executive Committee (MEC), established in July 2015 by the ESCC, met by phone each month during the fourth quarter. The E-ISAC has been working closely with the MEC, as well as two working groups—the Operations, Tools, and Technology Working Group and the Member Engagement, Products, and Services Working Group—to address the Strategic Review recommendations and will continue this work into 2016.

E-ISAC 2016 strategic plans:

**Technology**
- Major portal improvements, including new look/feel, chat, ability to manipulate data, and increased private collaboration space
- New email server separate from NERC
- New file servers to augment CRISP
- Data storage/analysis (Microsoft Azure cloud)
- TAXII/STIX capability
- Increased network capacity
- Malware/device lab

**Personnel**
- Formal technical training program for individuals and teams
- Full-time person on NCCIC floor
- Industry augmentation on the Watch floor
- Expansion of E-ISAC physical team

**Facility**
- Redesign Watch floor
- TSCM (bug) sweep

**CRISP**
- Grow membership
- Additional government analysis capability
- New types of sensors and data collection
- Unclassified data analysis organic to E-ISAC
- New quarterly report

**Products**
- GridEx III Distributed Play lessons learned and Executive Tabletop recommendation reports
- New daily one-page summary, and new annual report
• Tailored analysis of malware for forensics artifacts
• Repository of vetted security tools
• Classified briefings and discussions

Events
• Expand GridSecCon
• Add local/regional one-day physical and cyber security seminars

Cross-sector and external partners
• Vice-chair of US National Council of ISACs
• Add international partners, such as CCIRC, CERT Australia, CERT UK, etc.
**CRI SP Update**

**Action**
Information

**Background**
The Board of Trustees will be provided an update on the CRISP program. The program uses information sharing devices to collect and transmit security information from electricity operator participant sites. Pacific Northwest National Laboratory analyzes and integrates this information with classified government sources and collaborates with the E-ISAC to identify threat patterns and trends across the Electricity Subsector. Data is shared with CRISP participants, and then unattributed data is shared with the broader E-ISAC membership.
Report on GridExIII

Action
Information

Background
On November 18-19, 2015, NERC hosted the third Grid Security Exercise (GridEx III), a combined cyber and physical threat scenario against the reliable operation of the bulk power system.

Summary
GridEx III, which builds on lessons learned from NERC’s past grid exercises in 2011 and 2013, brought together more than 4,400 participants from across North America, spanning over 360 organizations including the electricity industry, the Department of Energy, Department of Homeland Security, Department of Defense and the FBI, as well as state and provincial governments in the United States, Canada and Mexico.

The scenario was designed to stress the system through a series of coordinated cyber and physical attacks against automated systems and key transmission and generation facilities. These simulated attacks allow utilities to enact their crisis response and recovery plans and walk through internal security procedures. During the exercise, participants received scenario information that detailed the exercise conditions. Based on this information, participants in their normal workplaces responded with both their organization’s internal response measures and external information-sharing activities across the sector.

GridEx III also included an executive tabletop exercise that brought together industry executives and senior government officials to work through incident response protocols in response to widespread outages.

Information sharing with industry and government stakeholders during the exercise provided the Electricity Information Sharing and Analysis Center (E-ISAC) the opportunity to engage subject matter experts and promote problem solving, analyze physical and cyber threat information for trends and cross-sector dependencies and identify specific opportunities for improvement.

Detailed reports on lessons learned and recommendations will be delivered to the Board and participants in March, 2016.
Operating Committee Report

Action
Information

Operating Committee’s (OC) Major Accomplishments for 2015

   a. At its June 2015 meeting, the OC approved a revision to the Reliability Guideline: Generating Unit Operations during Complete Loss of Communications. This guideline provides a strategy for power plant operations in the case of complete loss of communications (both data and voice) between the on-site generating unit(s) operator and the System Operator for the Balancing Authority Area, Transmission Operator (TOP) and Reliability Coordinator (RC).
   b. At its December 2015 meeting, the OC approved the Reliability Guideline: Reliability Coordinators – Balancing Authorities – Transmission Operators Communication: Loss of Real-Time Reliability Tools Capability / Loss of Equipment Significantly Affecting ICCP Data. This guideline was developed with a goal of maintaining the reliability of the Bulk Electric System (BES) and promoting real-time situational awareness, by recommending that Balancing Authorities (BAs) and TOPs have established procedures for notifying their neighboring or contiguous entities and their RC during periods of operation in which essential Real-time tools capability is degraded or lost (e.g.: SCADA, State Estimation, Contingency Analysis, Automatic Generation Control or loss of equipment significantly affecting Inter-control Center Communications Protocol (ICCP) data or ICCP data transfer).
   c. At its December 2015 meeting, the OC also approved the Reliability Guideline: Primary Frequency Control. This guideline provides a strategy for Primary Frequency Control during frequency deviation events, as well as information to the industry recommending governor deadband and droop settings that will potentially enable resources to provide better frequency response to the BES.

2. OC Strategic Plan – At its March 2015 meeting, the OC approved its 2015-2019 Strategic Plan. The four goals identified in the strategic plan are:
   a. Goal 1 – Investigate, review, and assess emergent issues to identify gaps impacting the reliability of the BES and associated NERC Reliability Standards.
   b. Goal 2 – Utilize the results of the Event Analysis (EA) Process to improve the reliable operation of the BES. Accomplishing this goal requires a two-pronged approach. First, the OC will focus on event prevention by providing industry with information associated with good industry practices and emerging tools, technology and techniques. Hence, information can be shared with the intended benefit of avoiding events. Second, the OC will continue to champion and enhance the EA program and use it to rapidly disseminate lessons learned, from which industry may profit through enhanced operational reliability.
c. Goal 3 – The OC will be proactive in the review of proposed Reliability Standards under development or improvement.

d. Goal 4 – Improve the depth of NERC reports to include operations perspectives. The OC will be proactively engaged in the development of NERC reports by assigning subcommittees or appointing representatives to groups in which operations reliability perspectives will be beneficial. Key findings and recommendations within NERC reports serve as the technical basis for NERC Reliability Standards, project prioritization, compliance improvement, assessments, and critical infrastructure protection, as well as a roadmap into the future. By providing early input into NERC efforts, the OC can provide a valuable service to the industry, as well as support NERC in addressing its top priorities.

3. OC and Subcommittee Work Plans – At its June 2015 meeting, the OC reviewed a draft OC work plan developed by the OC leadership team that identifies many of the OC’s work products and the last time those products were updated. The work plan will help guide the OC and its subcommittees in the prioritization of future work assignments.

4. NERCnet (ISN) – The Eastern Interconnection Data Sharing Network, Inc. (EIDSN) completed the transition of NERCnet to EInet.


6. Event Analysis Subcommittee (EAS) – The OC approved posting a revision to the EA Process documentation for comment at its March 2015 meeting. As a result of the comments received, the EAS drafted and the OC approved, at its September 2015 meeting, Version 3 of the EA Process. Version 3 will become effective on January 1, 2016. At its December 2015 meeting, the OC reviewed three additional lessons learned. These lessons learned are posted at 2015 Lessons Learned.

December 2015 Meeting Summary:
The following is a summary of the OC’s December 2015 meeting, which highlights the latest activities of the OC and its associated subcommittees in support of the NERC or OC mission and corporate goals. The December 2015 OC Meeting Minutes are posted on the NERC website.

1. Interconnection Frequency Response Initiative – The purpose of this initiative is to improve Interconnection frequency response and identified issues include improper dead band setting with the generator governor and lack of coordination between the turbine, plant controls, or any other outer loop control. The National Association of Regulatory Utility Commissioners passed a Resolution titled Resolution Urging Generators to Take Corrective Action and Implement Primary Frequency Response at its November 2015 Annual Meeting. In addition, the OC supports the efforts of NERC and FERC Staff to modify the Large and Small Generator Interconnection Agreement pro forma tariffs to incorporate primary frequency response according to the Reliability Guideline: Primary Frequency Control. The current FERC pro forma LGIA and SGIA are virtually silent on requiring a working governor and in regards to the governor’s settings. With regard to the existing generator fleet, every BES generator should have a working governor and be set in accordance with the frequency response guideline for system reliability and system restoration.

2. Time Monitoring and Geomagnetic Disturbance Reference Documents – The OC approved revisions to the Time Monitoring Reference Document and the Geomagnetic Disturbance Reference Document. The PJM Reliability Coordinator will replace the NYISO RC as the
Eastern Interconnection Time Monitor on February 1, 2016. The PJM RC will also become the Eastern Interconnection GMD Monitor on February 1, 2016.

3. **Maintaining Transmission Line Ratings Consistent with As-built Conditions – Good Utility Practices** – The OC was briefed on a NERC Reliability Assurance project that addressed good utility practices for maintaining transmission line ratings consistent with as-built conditions. The Facility Ratings Alert was issued in October 2010 and any discrepancies in facility ratings were to be remediated as quickly as practical consistent with reliability. The right-of-way assurance project included validation site visits to assure that entities with significant high priority line discrepancies have completed remediation. In addition, the project provided for industry sharing of methods and cost-effective programs developed to sustain adequate conductor clearances consistent with facility ratings. The project results were presented in a report titled *Maintaining Transmission Line Ratings Consistent with As-built Conditions - Good Utility Practices*, dated December 2015.

4. **Project 2010-14.2.1 (Phase 2 of Balancing Authority Reliability-based Controls – BAL-005, BAL-006 and FAC-001)** – The OC received an overview of this project’s status. Project 2010-14.2.1 addresses revisions to BAL-005, BAL-006 and FAC-001. To support development of these standards, the OC approved the development of an Inadvertent Interchange Reliability Guideline and a Reporting ACE Reliability Guideline.

5. **Work Plan Brainstorming Exercise** – The purpose of this exercise was to aid the OC in its efforts to develop its 2016 work plan. The work plan should identify what the committee and its subcommittees need to focus on throughout 2016. Furthermore, the work plan should identify what the OC will address in 2016, when it is expected to complete each task and how the OC will accomplish the tasks.

6. **ERO Event Analysis Process Dashboard** – The OC was briefed on the metrics and data collected through the ERO Event Analysis Process from October 2010 to date. The objectives of the briefing were to provide a brief history of current ERO EA Process, identify what the NERC Events Analysis department is gaining from the ERO EA Process and provide a current status report. The EA Field Trial (Phase I) began in October 2010, while the Phase II field trial began in May 2011. There have been three versions of the ERO EA Process and Version 3 was implemented on January 1, 2016. Deliverables from the ERO EA Process include: 1) Lessons Learned, 2) Trending and Event Severity Risk Index (eSRI), 3) Training Opportunities, 4) Alerts and 5) Cause Coding and Trending.
Planning Committee Report

Action
Information

Status Update

- **Unit Auxiliary Transformer (UAT) Relay Loadability Report**
  In response to the NERC Board of Trustees adopting proposed Reliability Standard PRC-025-1, the NERC Planning Committee (PC) tasked the System Protection and Control Subcommittee (SPCS) to study the application of the load-responsive unit auxiliary transformers (UAT) low-side protective relays to account for increased loading during depressed transmission voltages. This report provides the technical basis for minimum guidelines for the relay in question and provides recommendations as to whether a guideline or change to the Standards is necessary. This report is currently under review by designated PC members and approval is expected by March 2016.

Upcoming Activities and Major Initiatives for 2016

- **Variable Energy Resources Study**
  This study will examine the impacts of new variable energy resources on the system, specifically examining primary frequency response. NERC is currently seeking guidance from PC members on modeling assumptions, including: load scenarios; unit retirements and additions; and regulatory impacts. This study will begin after the scope is approved in early 2016 with the final product expected in late-2016 or early-2017.

- **Synchronized Measurement Subcommittee (SMS) Data Request**
  The SMS will initiate an effort to support inter-area oscillation baselining. The goal of this task is to provide a special assessment to the industry. This effort may include future Section 800 data requests and analysis. NERC Legal is currently exploring approaches to address non-disclosure agreements (NDA) for potential data collections. The SMS will also develop PMU placement and model verification guidelines as well as an angular separation technical report. Regular SMS updates to the PC will be provided as these activities progress in 2016.

- **Creation of the Load Modeling Task Force (LMTF)**
  This task force will report to the System Analysis and Modeling Subcommittee (SAMS) as a centralized forum for load modeling. This PC subgroup includes 50 subject matter experts representing various sectors of the industry. The LMTF will focus on nine tasks with a scope extending into 2017. The first deliverable is expected in Q2 of 2016.

- **Short Term Special Assessments (STSA)**
  NERC’s Short-Term Special Assessments are a series of issues-driven planning and operational reports that will examine bulk power system (BPS) risks over the next 18 months. NERC plans on annually publishing up to four concise, ad-hoc reports as reliability issues are identified, effectively replacing NERC’s cyclical summer and winter assessments. Report scopes would be targeted, timely, and non-cyclical, with in-depth analysis to inform the relevant audience (industry, policy makers, regulators, etc.) and
provide insights on ongoing NERC and industry-wide actions to address each topic. The development process for each assessment (i.e., regional coordination, data requests, and analysis) would be adjusted to most effectively address each issue. NERC will begin the STSA effort in early 2016. NERC staff is reviewing Section 800 of the NERC Rules of Procedure to determine whether any necessary changes are needed in light of NERC’s new STSA process.

• **NERC Clean Power Plan Assessment Efforts**
  Currently, two deliverables are planned in 2016 to further assess the Clean Power Plan. An initial document, entitled *Reliability Considerations for CPP Plan Development* will provide guidance to states as implementation plans are developed. This includes coordination between the states and planning entities, special consideration for essential reliability services, and recognition of required build times for new capacity and transmission. This initial report will be released in January, 2016. The second deliverable is a Phase II report that will examine potential reliability impacts of the CPP through multiple cases, including: optimal versus constrained trading; high penetration of renewables; and accelerated nuclear retirements. Model assumptions were recently finalized by NERC, with the input from the Clean Power Plan Assessment Task Force. The study is scheduled for release in late March, 2016.

• **Advanced Essential Reliability Services**
  NERC will be looking to take the next steps on Essential Reliability Services by forming the Essential Reliability Services Working Group (ERSWG). As a part of this work, in 2016, the ERSWG will be addressing the ERSTF’s recommendation on Distributed Energy Resources (DER). Also, the ERSWG will be shepherding the other ERSTF recommendations through their various subgroup assignments.

**Recently Completed**

• **NERC/Department of Energy (DOE) Dynamic Load Modeling/FIDVR Workshop**
  NERC and DOE co-sponsored a technical workshop in late-September, focused on dynamic load modeling and fault-induced delayed voltage recovery (FIDVR). With approximately 100 participants, the workshop focused on existing approaches to dynamic load modeling, research and development efforts to develop improved dynamic load models, industry experience with existing models, and a collaboration panel with the manufacturing community regarding current and future trends of end-use load technologies.

• **Essential Reliability Services Task Force Measures Framework Report and Abstract**
  This report was released in December to help industry understand and prepare for the change in resource mix, which includes the increased use of variable energy resources, the retirement of conventional generating units, advances in distributed energy resources and other changes to traditional generation resources. NERC also developed an abstract that provides a condensed version of the reliability considerations and information for policy makers, regulators and industry. The abstract contains links to three videos describing the basics of essential reliability services for the non-engineer.

• **2015-2016 Winter Reliability Assessment (WRA)**
  This assessment provided an independent North American perspective of bulk power system reliability from December 2015 through February 2016, which was expected to be resource adequate for all Assessment Areas. Similar to the 2015 SRA, this report highlighted key operational risks to the bulk power system. The enhanced operational
risk analysis examined factors, including past generation performance and average forced outages for the entire season.

- **2015 Long-Term Reliability Assessment (LTRA)**
The 2015 LTRA was released in December and identified falling planning reserves, the rapidly changing resource mix, environmental regulations and increased levels of distributed energy resources as the most significant long-term reliability challenges facing the bulk power system.

- **FERC Order 754 Assessment of Protection System Single Points of Failure Based on the Section 1600 Data Request**
The System Protection and Control Subcommittee (SPCS) and System Modeling and Analysis Subcommittee (SAMS) developed this report to provide results of an assessment of protection system single points of failure (SPF) in response to FERC Order No. 754. This report includes analysis of data from the NERC Section 1600 Request for Data or Information. Based on the analysis of data received, the report provides a discussion of alternatives to address this reliability concern and recommends a course of action to address the concern using a risk-based method.

**Future Meetings**
The PC future meetings are scheduled as follows:

- March 8-9, 2016 – Louisville, KY
- June 7-8, 2016 – TBD
Critical Infrastructure Protection Committee Report

Action
Information

Summary

- The December Critical Infrastructure Protection Committee (CIPC) meeting in Atlanta, GA, featured an opening address to the group from Mr. Jerry Donovan, President and CEO of Georgia Transmission Corporation. Mr. Donovan thanked the committee for its efforts and encouraged utilities to look ahead to, and beyond, the upcoming implementation date of CIP Version 5.

- Prior to the start of the CIPC meeting, a classified briefing was held at the FBI Atlanta field offices for CIPC members and others with the required security clearance. The briefing was conducted at the SECRET/REL CAN level to allow cleared Canadian members to participate. Panel discussions covering counterintelligence, counterterrorism, physical security and cybersecurity were presented by representatives from the Department of Energy, Federal Bureau of Investigation, Royal Canadian Mounted Police, Department of Homeland Security, Pacific Northwest National Laboratory, and Idaho National Laboratory.

- Mr. Marc Sachs, Senior Vice President and Chief Security Officer, Electricity Information Sharing and Analysis Center (E-ISAC) provided a review of recent E-ISAC activities including rebranding efforts and E-ISAC Portal platform improvements. He also provided insight into the work being planned for 2016, including automated threat indicator sharing, CRISP expansion, and closer collaboration with DHS National Cybersecurity and Communications Integration Center (NCCIC).

- At the December meeting a slate of four Executive Committee Subject Matter Experts were elected to serve for a term of two years, in accordance with the CIPC Charter, in the areas of cyber security, physical security, operations, and policy. The new SME members have been assigned roles as leaders of the four corresponding CIPC subcommittees.

- NERC staff provided an update to CIPC on CIP Version 5 transition guidance and activities. There was a discussion of anticipated compliance monitoring approaches following the April 1 implementation date, to include expected FERC audits of a limited number of selected entities coordinated through NERC and the Regions.

- Dr. Joe Baugh of WECC staff provided an overview and the results of a survey of WECC members on the CIP Version 5 transition process. The survey was conducted to address compliance concerns and to gain a better understanding of CIP Version 5 issues across WECC. Cultural and organizational issues commonly associated with significant changes were key themes discussed as they related to the CIP Version 5 transition.

- NERC’s GridEx III exercise was held November 18-19, with the significant majority of CIPC member organizations taking part as full players. Mr. Bill Lawrence from NERC E-ISAC gave an initial review of the exercise, focusing on simulated Bulk Electric System
impacts and performance metrics from the distributed play as well as the Executive Tabletop Exercise. Lessons learned are still in development, and the CIPC anticipates new projects as a result of these observations. The GridEx Working Group (GEWG) will begin planning GridEx IV, to be held in November 2017, later this year.

- The CIPC’s Physical Security Working Group (PSWG) is developing a security management program template for utilities to develop or mature an entity’s physical security practices. This program template will address policies, processes, and systems that in combination will ensure an acceptable level of risk to utility systems and assets.

- Mr. Jim McGlone updated the CIPC on Department of Energy efforts to update the Sector Specific Plan, and national laboratory initiatives related to transformer reserve strategies, and electromagnetic pulse (EMP) effects and mitigation.

- Mr. Ben Mayo was introduced as the new Department of Homeland Security (DHS) liaison to the CIPC, and gave a review of recent DHS efforts including updating all sixteen Sector Specific Plans, and updates to the National Terrorism Advisory System. Ms. Casey Ateah of DHS Region IV reviewed the products and services available to the private sector from DHS.

**Future Meetings**
The next CIPC meeting will take place on March 8-9, 2016, in Louisville, KY.
Personnel Certification Governance Committee Report

Action
Information

Background
This report summarizes the key activities of the Personnel Certification Governance Committee (PCGC) during 2015. The PCGC meets four times per year. Standing Task force meetings via conference call and/or ReadyTalk are held as needed between meetings. The fourth quarter 2015 meeting minutes are under review and pending approval. Draft minutes were posted to the NERC website during the fourth quarter of 2015.

Quarterly Metrics
There are several metrics tracked by the PCGC that are used to evaluate the efficacy of the System Operator Certification (SOC) program. Below is an overview of key metrics for 2015.

SOC Exam Development
The SOC Exam Development Metric (Figure 1) is used to track the development of SOC exams during the 36-month development cycle. A Job Analysis report was presented to the PCGC at the November 2015 meeting. Results of the JTA were used to develop new content outlines for the four system operator credentials (Reliability Coordinator, Transmission Operator, Balancing and Interchange Operator, and Balancing, Interchange and Transmission Operator). Additionally, these same results will be used to review and update the recognized operator training topics in Appendix A.

The PCGC approved the new content outlines. During the fourth quarter of 2015, the Exam Working Group (EWG) completed their item writing assignments and the categorization of all items written during the 2015 Item Writing Workshop. The PCGC will seek new item input from industry via an Item Writing Workshop (IWW) in 2016.

The Linear on the Fly (LOFT) capability offered by PSI will reduce the exam development cycle and increase the integrity of the exams. The ability to implement LOFT is dependent upon the size of the item bank. LOFT requires 1 times the number of combined items on the exams. An additional 17 items will accomplish the desired number of exams to implement LOFT. The PCGC and EWG have set a goal of two times the number of combined items. The next set of exams are scheduled to use the LOFT process.

The metric below demonstrates the exam development cycle for the next set of exams, which on the current 36-month development cycle is 2018.
Exam Development Activities Scheduled for 2016

- Items Review Jan.-May 2016
- Item Writing Workshop Nov. 2016
- Vetting of LOFT 2016-2017

System Operator Certification and Continuing Education Database (SOCCED) Availability Metric

The SOCCED Availability Metric is used to track the availability of the SOCCED Database. The metric reports the percentage of time both the website and SQL server, used to support the database, are available. As the metric below demonstrates, both the website and SQL server were available 100 percent during 2015.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Goal</th>
<th>Actual</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website Availability</td>
<td>99%</td>
<td>100%</td>
<td>2015</td>
</tr>
<tr>
<td>SQL Server Availability</td>
<td>99%</td>
<td>100%</td>
<td>2015</td>
</tr>
</tbody>
</table>

SOC Examination Pass Rate

The SOC Exam Pass Rate Metric is used to track the pass rate of the SOC exams for the period 2010-2015. Figure 2 compares the number of exams taken to the number of exams passed and Figure 3 provides the breakdown of exams based on exam credential type for 2015.

There are four Certified System Operator exams:
- RC: Reliability Coordinator
- BT: Balancing, Interchange, and Transmission
The average overall pass rate for all exams for 2010–2013 is 68 percent. The average pass rate for 2014 and 2015 is 76.3 percent. The total number of exams taken (996) in 2015 is slightly above the projected number of exams taken for the year (900). The average pass rate for 2015 is 74.9 percent.
The RC exam continues to be the most popular credential. The RC credential provides more flexibility to the system operator. The RC credential is also attractive to support functions within the utility industry such as Planners and EMS Engineers.

**SOC Program Budget**

Under Section 602.4.10 of the NERC Rules of Procedure, the PCGC shall have control over the matters related to the Personnel Certification and re-Certification Programs, without being subject to approval by any other body. Section 602.4.10 further states that financial matters related to the operation of the program shall be segregated from other NERC activities.

The Program Budget Metric tracks the SOC Program budget. While the financials for the SOC Program were not available in time for publication of the fourth quarter 2015 report, the 2015 3rd Qtr. Funding – Actual vs. Budget (Figure 4) -- details the revenue received from SOC Exams taken and SOC Certifications renewed as compared to the budget allocated for these items. The number of exams (276) taken during third quarter was slightly above the projected number (225). The number of credential renewals (236) for third quarter was 42.7 percent below the projection of 412 for the quarter. The overall impact to the actual funding is 12.8 percent lower than the projected funding through third quarter 2015.

![Figure 4: PCGC 3rd Qtr. - 2015 Funding](image)

The 3rd Qtr. 2015 Expenses – Actual vs. Budget -- depicted in Figure 5 details the expenses of operating the program in comparison to the budget from the service providers used to administer the program.

In the Total Meeting Expenses column (Figure 5), which depicts the Actual vs. Budget meeting expenses, the expenses were 40.1 percent lower than the projected budget. The PCGC meetings are public. The accessibility provided by meeting in hotels allows industry more flexibility to attend the meetings.
In the Minneapolis Consulting Group (MCG) column (Figure 5), which depicts the Actual vs. Budget SOCCED expenses, the difference includes costs for the SOCCED Upgrade. MCG is the vendor for the SOCCED. The actual amount spent for the SOCCED project and maintenance is 4.4 percent higher than budgeted for YTD third quarter 2015. The increase was the result of the implementation of the Phase 2A upgrade.

In the PSI column (Figure 5), which depicts the Actual vs. Budget expenses for exam development, psychometrician services and test centers; the actuals for PSI are 35.1 percent less than budgeted for YTD third quarter 2015. The actual dollars spent for PSI continue to run lower than budgeted for 2015. The number of new exams taken through third quarter was slightly below the projected budget. The opportunity to recover may occur during fourth quarter which is typically when the number of new exams are higher than projected for the quarter. The past three years (2012, 2013, and 2014) reported significantly higher exams taken during the fourth quarter.

In the Office Costs (telephone, Internet and other offices supplies) column (Figure 5), which depicts the Actual vs. Budget office expenses, the expenses were within budget. The actual amounts spent versus the amount budgeted office costs were minimal for YTD third quarter, 3.9 percent.

In the Merchant Credit Card Fee column (Figure 5), which depicts the Actual vs. Budget credit card expenses, the expenses were up slightly (1.1 percent) over the projected budget.

![Figure 5: PCGC 3rd Qtr. 2015 Expenses](image)

Figure 6 and Figure 7 detail the Exams Taken and Renewals (2012 – 2015) which can affect the Actual vs. Budget for revenue.
Actual system operator credential renewals for 2015 are trending down from 2013 and 2014. 2015 actuals are the lowest actuals for renewals over the last two years.

Accomplishments for 2015
- JTA Survey completed and emailed out
- Annual review of all SOC program documents
- 2016-2018 Budget and Fee Adjustment
- Analyzed results from JTA
Standing task forces have been created to provide deliverables related to each of the metrics included in this report. Each task force meets, outside of the quarterly meetings, as needed to address issues within their scope.

**Future Tasks**

- Test center options for Canadian provinces
- Categorization of Exam Items in Item Bank
- Complete Program Manual Review and Update
  - Review and Update Appendix A (Based on JTA results)
- Item Writing Workshop
- Review Exam Development Process
- Implement LOFT
Standards Committee Report

Action
Accept the 2016-2018 Standards Committee Strategic Work Plan.

Background and Summary/Requests for Acceptance
The 2016-2018 Standards Committee (SC) Strategic Work Plan (Plan) is a continuation of the 2015-2017 Strategic Plan in that it also reinforces the need to achieve a steady state with respect to Reliability Standards and transition to an Enhanced Periodic Review (EPR) process for a more deliberate review of the steady state Standards. The Plan further recognizes the possibility that consideration of emerging risks may result in the need for new Standards development over the 2016-2018 time period.

The SC offers the Strategic Plan for Board of Trustee's (Board) acceptance.

Standards Metric
At the May 2015 Board meeting, there was support for the SC’s measured approach in transitioning to EPRs, provided a Standards Metric(s) is established to inform the Board on progress. The Board requested that NERC Staff and the SC develop a Standards Metric and include it in the Reliability Standards Development Plan for adoption at the November 2016 Board meeting.

On the May 2015 SC call, the SC endorsed the following:

(i) the Standards Committee members will send any recommendations for approaches on the Standard Metric(s) to NERC’s Director of Standards and the Standards Committee Executive Committee (SCEC) by June 24, 2015; and

(ii) Subsequently the SCEC, working with NERC Staff, will develop recommended approach(es) on a Standard Metric(s) for the Standards Committee consideration, using the comments submitted as well as any of their own proposals.

Consistent with these action items, the SCEC collected and organized all the comments received from the SC and asked the members of the SC to comment on the various proposed approaches. The results of this second round of SC comments were discussed at September 2015 meeting, and the SCEC agreed to take those discussions into consideration when interacting with the OC, PC, CIPC and NERC staff. The discussions with the OC, PC, CIPC and NERC staff did not result in an agreed on or definitive approach to develop a Standard(s) metric.

Based on these discussions, the SC, on its January 2016 call, endorsed the following approach to implement Standards metric(s):

... that each Enhanced Periodic Review Team (EPRT) be required to use the attach considerations and questions, as the EPRT deems applicable.
and helpful, to develop a Standards metric(s) for the Standard(s) it is reviewing, and that the metric(s) be posted for stakeholder comment at the same time as Periodic Review materials, and, then, presented to the Standards Committee (SC) for endorsement, and included in the Periodic Review material submitted to the Board of Trustees. After finalization of the metric, it would be posted in the NERC website.

The benefit of this approach provides the EPRT with valuable input on what could be a meaningful metric, and also provides the EPRT with the discretion to design a metric that is Standard(s) specific, given there are different objectives for the various Standards. It is also thought that the most informed decision and consideration of a metric is also when the EPRT is considering whether or not to revise the Standard(s).

**Cost Effectiveness**
The SC, NERC Staff and the Standards Committee Process Subcommittee (SCPS) continue to work to develop a consideration of cost effectiveness that is meaningful, efficient and effective. The SC and SCPS welcomes the discussion that will likely occur at the February 2016 MRC and Board meetings on this matter, and will take the discussions into consideration as it continues to work with NERC Staff on a meaningful cost effectiveness approach.

**New Leadership**
The following leadership has been approved for the SC subcommittees for two-year terms. The SC is thankful for their willingness to serve:

**Project Management and Oversight Subcommittee**
Brenda Hampton (Luminant) – Chair
Charles Yeung (SPP) – Vice Chair

**SCPS**
Peter Heidrich (FRCC, RE) – Chair
Ben Li (Ben Li Associates) – Vice Chair
I. Introduction
The 2016-2018 Standards Committee (SC) Strategic Work Plan (Plan) is a continuation of the 2015-2017 Strategic Plan in that it also reinforces the need for the body of North American Electric Reliability Corporation (NERC) Reliability Standard to achieve a steady-state and transition to an Enhanced Periodic Review (EPR) process for a more stable review of the steady-state Standards. The Plan further recognizes the possibility that consideration of emerging risks may result in the need for new Standards development projects over the 2016-2018 time period. Lastly, the Plan identifies the task of developing a Standards metric, consistent with the request of the NERC Board of Trustees (Board) at the May 2015 Board meeting.

II. Steady State
In the recent past Strategic Plans and Reliability Standards Development Plans (RSPDs), steady-state has been defined as having reached “a set of clear, concise, high quality and technically sound Reliability Standards which are results-based, while retiring requirements that do little to promote reliability.” For some this definition is clear and workable, for others this definition needs enhancement to capture the intended view of steady-state. For example, while the quoted definition of steady-state does not so indicate, most would likely agree that reaching a steady-state of Reliability Standards means that the Standards process is focused exclusive on EPRs, and not new Standards or revising existing Standards, unless the EPR recommends revisions or there is a demonstrated and consensus-based need for revision or update. This latter, enhanced understanding of steady-state also includes the possibility of a new or revised Standard development to address an emerging risk as such risk is identified, for example, by an applicable governmental authority, the Reliability Issues Steering Committee (RISC) or NERC.

One of the advantages of reaching and maintaining a steady-state is the ability of registered entities to focus on implementation of and compliance with the existing Standards, without the concern that the Standards are constantly being revised. It also recognizes that refinement of the steady-state Standards will occur during the EPR over a more measured time period.

The 2016-2018 RSDP indicates that there are outstanding Standards development projects that need to be completed in 2016. Reaching a steady-state requires completion of these projects. Thus, the transition to EPRs in 2016 shall be tempered by the understanding that 2016 will include the completion of these Standards projects.
III. Enhanced Periodic Review (EPR)

As adopted by the SC in 2014 for implementation in 2016, all EPR projects involve the use of an EPR Template similar to the template that was successfully used during the 2013-2014 periodic reviews. Each EPR Team shall be comprised of: a Standing Review Team, and a stakeholder Subject Matter Expert (SME) team, appointed consistent with Section 13 of the Standards Processes Manual. This chart helps illustrate the review team composition.

### Review Team Composition

<table>
<thead>
<tr>
<th>Non-CIP Standards</th>
<th>Standing Review Team</th>
<th>Plus Section 13 (SMEs):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chairs of the following NERC Standing Committees:†</td>
<td>The SC will appoint stakeholder subject matter experts for the particular standard(s) being reviewed. The SMEs will work together with the Standing Review Team to conduct its review of the standard(s) and complete the template below.</td>
</tr>
<tr>
<td></td>
<td>• SC (Also, the SC chair or his/her delegate from the SC will chair the Standing Review Team)²</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Planning Committee (PC)</td>
<td></td>
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<tr>
<td></td>
<td>• Operating Committee (OC)</td>
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<tr>
<td></td>
<td>The Standing Review Team will meet with SMEs and help to ensure a consistent strategy and approach across all of the reviews.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CIP Standards</th>
<th>Chairs of the following NERC Standing Committees:³</th>
<th>The SC will appoint stakeholder SMEs for the particular standard(s) being reviewed. The SMEs will work together with the Standing Review Team to conduct its review of the standard(s) and complete the template below.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• SC (Also, the SC chair or his/her delegate from the SC will chair the Standing Review Team)³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Critical Infrastructure Protection Committee (CIPC)</td>
<td></td>
</tr>
</tbody>
</table>

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† Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.

² The SC chair may delegate one member of the SC to chair one Standing Review Team’s review of a standard(s), and another SC member to chair a review of another standard(s).

³ Each committee chair may, at his or her discretion, delegate participation on the Standing Review Team to another member of his or her committee.
With consideration of stakeholder comments, the EPR Team will indicate for each Standard it has reviewed, the following indicators:

- **REAFFIRM (GREEN)**
- **REVISE** - Indicate whether the revisions are necessary to support reliability (RED), or discretionary (YELLOW) (Would include revision of associated RSAW.)
- **REVISE OR RETIRE (RED)** (Would include revision of associated RSAW.)
  For those Red Standards, the EPR Team shall develop a Standards Authorization Request for consideration by the SC.

The 2016-2018 RSDP indicates that the following Standards and Standard families are eligible and ready for an EPR, with the understanding (as set forth below in the work plan activities) that the SC with the assistance of the Project Management Oversight Subcommittee (PMOS) and NERC Staff will consider the prioritization of these EPRs in the first quarter of 2016:

- BAL and INT families (BAL-001 and INT-004, INT-006, INT-009, and INT-010)
- EOP-001, EOP-002, and EOP-003
- EOP-010 (as a one-off)⁴
- FAC-008-3 (as a one-off)
- NUC-001-3 (as a one-off)
- PER-001, PER-003, and PER-004
- PRC families
- VAR-001 and VAR-002

### IV. Standards Metric

The NERC Board of Trustees has requested that the SC develop a Standards metric to assist NERC to determine whether the body of Reliability Standards is achieving the desired behaviors and results. The SC, in conjunction with NERC Staff and the leadership of the OC, PC and CIPC, have begun work to develop such a metric that is additive to and not duplicative of the EPRs, and meaningful in-and-of-itself.

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⁴ “One off” review is recommended when the Standard is not sufficiently related to a family of Standards to include in the review of multiple Standards at one time, or the timing of the Standard review suggests an earlier review of one Standard versus waiting for the family of Standards to be ripe for review, given the criteria used to determine when a Standard/Standard family is ripe for review.
V. Vision, Mission and Guiding Principles

**Vision**
A comprehensive body of steady-state Reliability Standards that collectively helps to achieve an adequate level of reliability and promote the reliable operation of the North American bulk power system.

**Mission**
For the SC to effectively manage and oversee the development of a comprehensive set of steady-state Reliability Standards that are aligned with NERC’s strategic goals through open and inclusive processes and procedures.

**Guiding Principles**

- Consistent with the 2016-2018 RSDP, this Plan continues the work needed to attain a steady-state as soon as practicable and to transition to a more stable review of Standards under the EPR. Consensus needs to be achieved through stakeholder processes or measured indicators, with the understanding that emerging risks may result in the need for a new or revised Standard development.

- That the SC continues to promote and implement a collaborative working environment with the other NERC Standing Committees, NERC Standards staff, stakeholders and standard drafting teams.

- That the SC continues to execute the Standards development process for the effective and efficient use of NERC and industry resources.

- That the SC continues to promote and take a leadership role on consensus building activities.

VI. Work Plan

**Task No. 1 – Project Management and Prioritization of Existing Standard Projects**

- PMOS and NERC Staff to present for SC endorsement, a project schedule to complete the existing Standard development projects as set forth in the 2016-2018 RSDP.

Completed by SC endorsement in its December 2015 meeting.

**Task No. 2 – Implementation of Enhanced Periodic Review**

- PMOS and NERC Staff to work together to present for SC endorsement, a prioritization and scheduling of 2016 EPRs.

Complete by end of February 2016.
Task No. 3 – Standards Metric

- With the assistance of NERC Staff, the leadership of the OC, PC and the CIPC, the SC will develop a Standard metric and an associated Implementation Plan for Board endorsement.

Complete by the May 2016 Board meeting.

Task No. 4 – Compliance Guidance Policy

Work with the Compliance and Certification Committee (CCC)

The following recommendations were presented at the November 2015 Member Representatives Committee (MRC) meeting by the Compliance Guidance Team that was formed by the MRC to consider approaches useful in providing guidance for implementing standards, and develop a policy proposal for the purpose, development, use, and maintenance of this guidance.

- The Compliance & Certification Committee (CCC) will lead, with Standards Committee (SC) support, a joint review of existing documents to submit for ERO Enterprise endorsement;
- An SC review of Section 11 of the Standard Processes Manual to determine whether revisions should be considered;
- The CCC and SC, with ERO Enterprise CMEP staff, conduct a joint review of measures and Reliability Standard Audit Worksheets;

Complete first task by end of first quarter of 2016, second task by end of second quarter of 2016, and third task by end of third quarter of 2016, with the understanding that the first and third tasks are dependent on schedule of the CCC and NERC Staff.

Task No. 5 – Fourth Quarter Review of SC 2016-2018 Strategic Work Plan

- The SC will conduct a review of its 2016-2018 Strategic Work Plan.
- The SC Executive Committee shall evaluate the need for additional reforms or enhancements to the SC Charter.

Complete by end of December 2016.
Reliability Issues Steering Committee Report

Action
Approve the new membership of the Reliability Issues Steering Committee (RISC).

Summary
The Reliability Issues Steering Committee (RISC) nomination committee met on January 22, 2016. Nabil Hitti, Vice Chair of the MRC and Chair of the RISC nomination committee, will present the new members of the RISC for the Board’s approval. One MRC position remains open with the resignation of Scott Helyer. The MRC will solicit nominations for this vacancy.

The proposed meeting schedule for 2016 will be released by the end of February. Planning for the 2016 Reliability Leadership Summit has commenced, and outreach will begin shortly for the 2016 ERO Reliability Risk Priorities and Recommendations report.
Compliance and Certification Committee Report

Action

Information

Highlights

- The Compliance and Certification Committee (CCC) completed all 2015 Work Plan deliverables.

- The CCC and its associated subcommittees held meetings at NERC’s offices in Atlanta, Georgia on December 2, 2015.

- The CCC has formed a task force to complete its fast-tracked Compliance Guidance Policy deliverables; to develop a process to evaluate and approve “non-prequalified” organizations to submit guidance for endorsement and with Standards Committee (SC) support conduct a review of existing documents to submit for ERO Enterprise endorsement. The task force is chaired by Scott Tomashefsky, Regulatory Affairs Manager, Northern California Power Agency. It is made up of volunteers from both the CCC and SC. The remaining Compliance Guidance Policy CCC deliverables will be absorbed by the Compliance Processes and Procedures Subcommittee (CPPS).

- The ERO Monitoring Subcommittee (EROMS) continues working with NERC to modify the questions in the ERO Enterprise Effectiveness Survey associated with the CCC areas of responsibility. The subcommittee anticipates that the CCC questions will be finalized by the end of Q1 2016. In addition, EROMS is developing the content for 2015 Self-Certifications in the areas of the adherence to the Standard Processes Manual and Standards Applicable to NERC which are the two areas not included in the scope of the 2016 independent audit activities.

- The Organization Registration and Certification Subcommittee (ORCS) continues to support the implementation of Risk-based Registration by providing experiences and observations of its members to NERC and the Regional Entities to address and prevent inconsistencies in Regional Entities’ execution of the revised NERC Registration Criteria.

- The CPPS continues to work with NERC to update the Criteria for Annual Regional Entity Program Evaluation (CCCPP-010-3). This program document will incorporate lessons learned from the implementation of the Risk-based Compliance Monitoring and Enforcement Program. In addition, CPPS supports NERC in providing compliance experts to review changes to Reliability Standards Audit Worksheets (RSAWS). The subcommittee provided comments on the RSAWS for IRO-009-2 and PRC-005-6. CPPS will continue its more active role in participating in Quality Reviews as requested by NERC. Quality Reviews may include not only standards, but also items for publication, such as white papers and lessons learned.

- Assisted in the selection of the audit firm to conduct NERC/CCC Independent Audit of the NERC Compliance Monitoring and Enforcement Program and the NERC Registration and Certification Programs. The kick-off meeting with the auditor, CCC observers, and
NERC was conducted on January 20, 2016. All activities are done in collaboration with Mechelle Thomas and Matthew Gibbons from the NERC Internal Audit and Corporate Risk Management team.

- The next CCC meeting will be March 1-2, 2016 at NERC’s offices in Atlanta, Georgia.
The Regional Executives are pleased to report that leadership of the REMG has transitioned in 2016 to Lane Lanford (Texas RE) as chair and Jim Robb (WECC) as vice chair. Lane succeeds Scott Henry (SERC) who chaired the REMG for two years.

One of the purposes of the REMG is to promote information sharing, transparency and consistency within and among Regional Entities. Significant progress has been made in the Compliance Monitoring and Enforcement Program (CMEP) area over the past two years with ongoing continued improvement activities in implementation. Regional Entity staffs are engaged with NERC staff in important program areas such as Reliability Assessment and Performance Analysis and Registration and Certification where there is significant ongoing activity.

Development of ERO IT projects continues to be an important shared strategy between NERC and the Regional Entities. Dan Skaar (MRO) has replaced Scott Henry on the Technology Leadership Team which acts as a resource to NERC’s Program Management Office. Jim Robb (WECC) and Ed Schwerdt (NPCC) continue to serve on the TLT. Examples of ERO IT projects with significant Regional Entity impact include The Event Analysis and Management System which was delivered last year and the Misoperation Information Data Analysis System which is expected to support collection of relay operations data under Section 1600 when transitioning from regional misoperations procedures previously required under PRC-003/004 in the later-half of 2016.

The Regional Entities will also, of course, be engaged throughout 2016 in NERC’s efforts at ERO Enterprise Strategic Planning Redesign and 2017 Business Plan and Budget development.

Thank you for the opportunity to report on our activities in support of the ERO Enterprise.
TO: NERC Board of Trustees (BOT)

FROM: Thomas J. Galloway, NATF President and CEO

SUBJECT: NATF Periodic Update to the NERC BOT – February 2016

Attachments: 1. NATF Focus and Activities

The North American Transmission Forum (NATF) mission is to promote excellence in the reliable operation of the electric transmission system, with the vision to see reliability continuously improve. To augment our strategic goals, the NATF has focused on several topics that serve as the base for trilateral collaboration between NATF, EPRI and INPO. The 2016 focus areas are:

- Resiliency (All hazards, including Physical and Cyber security)
- Human Performance (reduced frequency and consequences of errors)
- Equipment Performance and Asset Management
- Operating Experience Exchange – including cause analyses and lessons learned
- Continuous performance improvement – mechanisms/processes including risk reduction

Some of the specific activities associated with the above are expanded upon in attachment 1 and summarized as follows:

- CIPV5 standards transition guidance and implementation support
- Detailed CIP-014 reference documents and cross-member calibration on results
- Switchyard reliability assistance on-site visits and self-assessment tools
- Stratification of member performance regarding key equipment failure rates
- Protection system misoperation reduction – training and practice documents
- Risk assessment and controls self-assessment tools and training webinars
- Resiliency workshops – comprehensive and topic-specific (GMD, EMP, etc.)
- Transmission line Right of Way (ROW) maintenance superior practices and coordination
- Modeling reference documents (various topics)
- Member assistance to support comprehensive event review and corrective action
- Cold weather lessons learned/preparation webinar
The NATF shares many common objectives with NERC. To advance these common objectives, and avoid redundant or conflicting efforts, we have undertaken periodic coordination meetings between the senior leadership of both organizations. The next such session is scheduled for January 29, 2016, with expected agenda topics including:

1. Targets for addressing equipment failures
2. Protection system misoperations, including related materials/goals
3. Transition to CIPV5
4. Human performance conferences in 2017
5. Compliance guidance—various technical topics
6. ROW maintenance
7. Geomagnetic disturbance (GMD)
8. Supply Chain management

Also, given the extremely complex and dynamic nature of the industry currently, the NATF has decided to make certain, specific work-products available beyond the membership. Two noteworthy areas involve recent NATF work on both physical security and modeling.

NATF member subject matter experts (SMEs) have produced high-quality work-products on both of these topics. And, with NATF Board concurrence, we have decided to make selected documents public – to the benefit of the entire industry. Such documents are available via www.natf.net and are listed below.

- NATF Modeling Data Request Guide (MOD-032)
- NATF Reference Documents – CIP-014 R1, R4 and R5
- NATF Reference Document – Generator Specifications
- NATF Reference Document – Power Flow Modeling
- NATF Reference Document – Reporting and Verification of Generating Unit Reactive Power Capability for Synchronous Machines

*We plan to make other selected NATF work-products available outside the membership on a case by case basis.*

cc:
NATF: R. Carter, K. Berent, C. Sills, Letter Log

www.natf.net
Attachment 1 - NATF Focus and Activities

NATF/EPRI/INPO

- Five focus areas as framework for trilateral collaboration
  1. Resiliency (all hazards, including cyber/physical security)
  2. Equipment Performance / Asset Management
  3. Human Performance/ Error Reduction
  4. Operating Experience Exchange
  5. Performance improvement (mechanisms/processes)

NATF/EPRI specific

- Joint NATF/EPRI/INPO Resiliency Summit March 1-2, 2016 (Charlotte, NC)
  - Anticipate about 100 attendees
  - Risk prioritization tools and associated actions (practices/R&D)
  - Cross-industry panel on challenges and solutions
  - Vendor panel on challenges and solutions
  - Tutorials: EMPIEMI, GMD, Security
- Joint NATF/EPRI/INPO Resiliency Summit Aug 31-Sept 1, 2016 (Palo Alto, CA) - Tentative
  - Recovery/restoration emphasis
  - Blackstart paths
- Equipment Performance and Maintenance
  - Shared insights on failure rates, causes, and corrective actions
- Strategy Sessions: Grid Operations and Planning Synergies

NATF/INPO specific

- Shared Operating Experience/LOOP Reductions (IER 13-53)
- Nuclear plant switchyard self-assessment tools
- Emergency power runtime/fuel supply replenishment/blackstart
Attachment 1 - NATF Focus and Activities (Continued)

Other/General

- Systematic interaction with Members/ERO on Reliability Assurance Initiative (RAI)
  - Sharing of Key Principles and Lessons Learned
  - Strong Risk/Controls focus in Peer Reviews
  - Preparing Members for risk-focused audits
  - Interacting with ERO Staff (workshops, etc.)
- NATF Peer Review Program fully integrates:
  - Risk Assessment and Internal Controls
  - Human Performance/Error Reduction
  - Operating Experience Exchange
  - Physical Security
  - *Now offering tailored, focused reviews on specific reliability subsets*
- Other recently completed/near term activities:
  - Human Performance Symposium
  - System Operations – EMS focus
  - Train-the-Trainer workshop
  - Vegetation Management – detailed benchmarking/compliance template
  - Cold weather preparation webinar
  - Comprehensive peer challenge boards for review of selected member events
  - March 1-2 Resiliency Summit
- Training Webinars (New NATF Offering)
  - Risk Assessment and Internal Controls (RAIC)
    - 9/15/15: Internal Control Framework and Governance Overview (150+ attendees)
    - 9/28/15: Risk Assessment (125 attendees)
    - 1/20/16: Internal Control Design and Implementation
    - 2/17/16: Control Effectiveness (Monitoring and Testing of Internal Controls)
  - Protection Systems / MisOperation Reduction
    - 11/10/15: Directional Element Settings Practices (96 attendees)
    - 11/12/15: Directional Comparison Blocking Scheme Settings Practices (186 attendees)
The NAGF has been monitoring the concern with Essential Reliability Services with the understanding that frequency response, voltage support and ramping are all generator functions. Through its participation on the Resources Subcommittee, the NAGF has been driving the improvement of frequency response. With the knowledge the system is changing at a fast rate and the understanding Essential Reliability Services will need to be provided by the changing generation mix, the NAGF has taken the initiative to be proactive and participate in the solution. First, the NAGF has nominated an executive from a member company for a position as an At-Large Member of the Reliability Issues Steering Committee. Second, the NAGF will be developing an Essential Reliability Services Working Group to begin the evaluation of both the capability of and economic impact on synchronous, asynchronous and energy storage that may be required to provide frequency support, voltage support and ramping.

The NAGF Working Groups continue to expand and provide a mechanism for generator owners and operators to collaborate on solutions to issues. Tim Kucey, PSEG has become the Working Group Coordinator to report on activities and to assist with collaboration opportunities between Working Groups. The current Working Groups along with their Leads and a short description of activities are:

- **Working Group Coordinator**
  Tim Kucey, PSEG Fossil
  Timothy.Kucey@pseg.com

- **Cold Weather Preparedness**
  Lead: Mike Gabriel, EthosEnergy
  Mike.Gabriel@ethosenergygroup.com
  Based on generator experience, develop a fully-encompassing cold-weatherization procedure for distribution to NAGF members.

- **Nuclear Peer Group**
  Lead: Alison MacKellar, Exelon
  Alison.MacKellar@exeloncorp.com
  Discuss and develop compliance solutions for the nuclear generators.
• **Security Practices/CIP**  
  Lead: Josh Sandler, Duke-Energy  
  Josh.Sandler@duke-energy.com  
  Develop implementation guidance for physical and cyber security.

• **Standards Review Team**  
  Lead: Scott Miller, MEAG  
  smiller@meagpower.org  
  Meet with Standards Developers to discuss and comment on standards that are being developed and to discuss methods for implementation.

• **Dispersed Generation**  
  Darnez Gresham, MidAmerican  
  DJGresham@midamerican.com  
  Discuss and develop Standard implementation guidance for Dispersed Generation Resources.

On December 1, 2015, the NAGF attended the Electrical Infrastructure Protection (EPRO) Executive Steering Committee Winter 2015 meeting. The NAGF presented on internal and external issues generators face as a result of a long term system event. The NAGF agreed to continue to work with the Steering Committee to provide them with general information concerning operational challenges generators would face during various system events.